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REMARKS ON CASES RECEIVED IN THE HENRY PHIPPS PSYCHIATRIC CLINIC.*

By David K. Henderson, M. D.,
Resident Psychiatrist, The Johns Hopkins Hospital.

During the eight months from May 1 to December 31, 1913, in which The Henry Phipps Psychiatric Clinic has been in operation, 238 patients have been admitted. Ninety-six or 40 per cent of these have been from states outside of Maryland, fifteen or six per cent from Maryland, outside of Baltimore, and the remaining 54 per cent from Baltimore City.

The Psychiatric Clinic is intended to serve as a place for the study and diagnosis of *all* forms of mental disorder, and for the treatment of those who may be expected to benefit from the forms of treatment practicable in such a type of hospital. The range of cases includes the functional and the organic, the acute and the chronic, the pay patient and the free patient.

The number of patients admitted up to the present has been the limit of what we were able competently to handle, considering the care and caution needed in the selection of the nursing force. Many applications have had to be refused, but it is a matter of great satisfaction that we are enabled to say that no patient from Baltimore has as yet been refused admission because he could not afford to pay anything.

It has seemed very desirable to us to give the physicians of Baltimore a somewhat clearer idea of the principles we follow in admission of our cases, and it is therefore a pleasure to use this opportunity to make an appeal to you for cooperation in an important matter, namely, that of helping public opinion to align itself more and more in keeping with the changing conceptions of modern psychiatry.

The standard used by us is that of considering as suitable for admission any patient in whom a mental break-down is induced by either mental or organic factors, from so-called nervousness and instability to the most pronounced cases of mental disorder. One point we do stand out for, and that is the demand for a reasonable amount of cooperation both on the part of patient and family.

It is our wish as far as possible to eliminate the mere question as to whether the patient is insane or not; the

* Paper read at a meeting of the Baltimore City Medical Society, February 6, 1913.

important point of distinction is: Does the patient or at least the family show a reasonable spirit of cooperation?

To give you a very summary idea of the type of cases it will suffice to say that among the 238 cases received,

14	women and	40	men	had organic disorders.
22	" "	17	"	were cases of various psychoneuroses.
23	" "	18	"	were cases of depression.
6	" "	21	"	were cases of excitement.
35	" "	21	"	were cases of dementia præcox and allied states.
6	" "	11	"	were cases of toxic psychoses.
4	" "	9	"	were cases of constitutional psychopathic disorders.

In only 8 of these cases was commitment resorted to.

Public opinion still makes a very exaggerated contrast between simple mental difficulty and insanity, and unfortunately many physicians tend to bewilder the public still further by using that very misleading term "borderland case." It seems to be a wide-spread misconception that only so-called "borderland cases" are admitted to the Psychiatric Clinic; another misconception is that only acute cases are received, and a third and rather negligible one is that the Clinic is chiefly a place for the training of defective children.

The name "borderland" seems to me to be a very dangerous one, and one very fruitful of error. I suppose that it is its ambiguity that is so appealing—as the term eczema is in skin diseases—and on that account it is used to denote cases in which the diagnosis is more or less doubtful. One's experience either with the psychoneuroses or with the psychoses proper need not be extensive before one begins to appreciate that there is no definite dividing line between these conditions, and that too frequently the patient tends to get quite an erroneous view of his condition which is hard to eradicate. The line of divison lies chiefly between cooperative and non-cooperative states, and not between any supposed standard of sanity or insanity.

Our main opportunity for progress in combating mental disorders is to facilitate as much as possible the admission of voluntary patients during the stage of capacity to cooperate—a tendency which is well exemplified by the numerous voluntary admissions to all the progressive institutions around us. The family physician more than any one else is the best person to point out to the families and patients how success or failure in the treatment of a case depends to a tremendous extent upon the degree of cooperation.

It will not be necessary to discuss the general methods of work with our patients, the special treatment of the specific cases, the treatment for drug and toxic cases, the hydrotherapy, gymnasium, and occupation treatment, and the efforts to help the patients to attain to a mental readjustment. But it may be of some use to depict briefly a few cases in which the cooperation of the family physician would be of the utmost importance, and a few others illustrating the range and aims in the treatment of cases calling for a mental readaptation. Some of these cases may also suggest how important it is to make a very close and diagnostic study of the symptoms so that grievous mistakes may be avoided.

A young married woman, 30 years old, was admitted to the Clinic on May 19, 1913, with a history of having lost weight (50 lbs.), of persistent vomiting, air hunger, and occasional catheterization. She was admitted to a quiet ward, but owing to her strenuous objections had shortly to be moved to a private room. She lay quietly in bed with a smiling expression, and talked freely about her complaints. She frequently would take deep inspirations, followed by a long sighing expiration and said: "When I breathe naturally it does not satisfy me, I must take deep breaths—it seems as if the breath just goes to here" (pointing to the middle of the sternum). As soon as one could get her interested in a conversation, however, her respiratory difficulties considerably abated. In addition to her respiratory difficulties she refused to take anything to eat except a little cracked ice and milk from a medicine dropper. A careful examination of her physical condition failed to elicit any basis for her complaints. The history of the case in brief showed that she had been a healthy child, who apparently had developed normally, and married at the age of 19 years in 1902. In June, 1905, 3 years after marriage she was admitted to the Maternity Ward of the Johns Hopkins Hospital, and was at that time 5 months pregnant; but, what is of more immediate interest to us, it is also noted in the history that she showed considerable respiratory difficulty, especially in the presence of a doctor or nurse. These symptoms, even at that time, were diagnosed as being neurotic in origin.

Following the birth of her child on November 15, 1905, she remained well for a very short time, but then commenced to complain of vague pains, on account of which she underwent three operations—in 1908, 1909, and January, 1913, for adhesions. In September, 1912, however, vomiting, which soon became persistent in character, developed. This vomiting was at first thought to be due to another pregnancy: but, after that diagnosis had been ruled out, pelvic adhesions were blamed for the vomiting, which was considered to be of reflex origin, and so finally in January, 1913, the last operation was performed. Following this operation she did not vomit for 15 days; she returned home, but 3 days later vomiting again started so that until the time of her admission to the Clinic she had been existing on a small quantity of "lozak" or a little ice-cream.

During all these months at home she had been confined to bed, and made life unbearable for everyone in the house; her husband's capacity as a workman was seriously interfered with, and her family physician would be summoned both night and day to console her and to administer morphia so that she might get a little sleep.

No time was given us to make an analysis of this case, but from the history which has been given, many psychogenic features are evident. During the two and a half days she was in the Clinic she was exceedingly discontented, asked to be taken home all the time, and owing to the fact that those who were closely associated with her would not take a definite stand, the patient had to be discharged. The case clearly shows how important an early diagnosis of psychogenic factors would have been, and how necessary the firm advice of the family physician.

A second case was that of a young married woman, 23 years old, who on admission had a twitching movement of the left side of her face, frequently protruded and withdrew her tongue, and lay in a somewhat trance-like state, usually with her eyes half closed. She looked pale and anguished, and frequently put her hand over the region of her heart. She answered questions in a sing-song, irrelevant way, and repeated the same thing over and over again. At times she tended to assume an opisthotonos position, and frequently tried to vomit. She did not react to pin pricks anywhere

over the body or face, willingly put out her tongue to be pricked, but her corneal reflexes were present on both sides.

The history of the case showed that three months previous to her admission to the Clinic the patient's sister had died in a hospital from nephritis. The patient had been greatly attached to this sister, frequently talked about her, and following her death visited her grave every day, rain or shine. About one month after her sister's death she consulted the family physician for nausea, complained of all the symptoms from which her sister had suffered, and thought too that she had nephritis. Two months later and two days previous to her entrance to the Clinic she complained of pain in the left side of her abdomen, refused to talk, would hold her breath at times, and twitching started in the left side of her face and in both arms. Two days following admission the patient was much better but refused to cooperate in a thorough analysis of her case, said that she did not want to stay in a hospital as her sister had died in one, and consequently five days after admission the patient was taken home by her relatives much improved, but far from having learned to understand and protect herself for the future.

A third case which emphasizes the same points as the previous two was that of a young married woman of 30 years of age, who was admitted to the Clinic in an excited, hallucinatory state in which she saw God and felt compelled to do everything that he told her to do. She seemed fearful, blamed herself for having sinned, told about a clandestine love affair with a physician and begged God not to send her to hell.

The history showed that she had been a healthy girl who had developed normally. In 1910 she married, but owing to a vaginismus had never been able to have sexual relations with her husband, which was a source of considerable dissatisfaction to her.

For about 10 days before admission she had a fever with a temperature elevation varying from 103° to 104° F., for which no adequate cause could be determined. No mental symptoms showed themselves until 2 days previous to admission when immediately after receiving communion she began to talk about her sins having been forgiven, told how the family physician had shown affection for her, and of how she had had two children fifteen minutes apart without any pain. Later because God told her to do certain things she became very violent and abusive.

During her six days residence in the hospital the patient improved considerably, but then the husband despite every argument insisted upon taking her home, even though the patient still believed that she had actually seen and talked to God, and while she still maintained that she heard voices telling her certain things.

Such cases I suppose would be called by many "borderland" cases, but the striking feature about them all has been their total lack of appreciation of the entire situation, and that in itself should be sufficient to make one take an ominous view of such cases. It seems to me that the only way, at least the only satisfactory way, in which these cases can be treated is to have the thorough cooperation of the family and of the family physician, so that legal commitment by two physicians might be urged in the case of absolute necessity. Such patients are essentially mental cases, and that being so it is entirely wrong to allow the patient to dominate the situation and at the same time play the part of both physician and patient. It is usually such cases as the above who most unfortunately have been assured before their entrance to the Clinic that they will not be associated with "real mental patients," but with other "borderlands" like themselves, and when their supicious minds discover evidence of supposed insanity in others, then they feel deceived, and the trials of management come to the front.

In all three cases the psychogenic material is self-evident, and it is just such cases that can be exceedingly benefited by means of a thorough analysis, provided that physician and family help the patients to see themselves and the Clinic in the right light.

In addition to the cases already reported, may I be allowed to mention two other cases that illustrate even more conclusively the great necessity for thorough cooperation?

Both of these were cases which had been allowed to drift along for several years, were eventually brought to the Clinic, but after an exceedingly short stay were removed owing to the fact that the relatives thought that the patients' feelings deserved more consideration than the patients' welfare. One of these was a young man 22 years old, whose mother went so far as to enter him under a fictitious name and at first refused to give his address because she did not want anyone to know where he was. The patient had never been able to do any steady work, was evasive and suspicious in his general attitude, which condition had persisted unchanged for three years. His mother removed him on the day after admission because she could not bear having him in a ward with other patients.

The other case was that of a single woman 50 years old who was admitted in an utter state of dejection and helplessness with a history of a self-accusatory trend for having committed unpardonable sins, and thought of suicide. She came from a poor stock, had been interested particularly in the spiritual side of life, and, as is not unusual in such cases, had indulged freely in auto-eroticism from the age of five years. She was a patient for whom a good deal might have been done, but as soon as her relatives heard that she was in a hospital for treatment of nervous and mental disorders, they heartily approved of the patient's desire and determination to return home. These are mishaps which we can only hope to correct if we physicians can give a less confusing view of the purposes of the hospital and can disregard the old division of sanity and insanity.

To consider for the sake of contrast a more hopeful side of things, I want now to show how when one has good cooperation excellent results may be obtained, even in complex cases, by means of the proper study of the factors requiring readjustment. I shall again illustrate the point, which I wish to demonstrate, by reference to a case.

A young unmarried woman, 24 years old, on admission to the Clinic had a worried, disconsolate expression, and gave a history of having had fainting attacks at the age of 10, 13, and 21 years. For three months previous to admission she had been at home in a nervous condition, and during that time had frequent "fainting attacks." On coming to the Hospital the patient was first admitted to the general ward, but during her three weeks residence had two convulsive attacks, in which she screamed, assumed an opisthotonos position, did not wince when stuck with a pin, and called on some men whom she imagined were present to leave her. It was on account of these spells and on account of the fact that she had not reacted to general medical treatment that the patient was transferred to the Psychiatric Clinic.

The patient described herself as always having been of a secretive nature and an exceedingly conscientious student while preparing herself for work as a missionary. It seemed impossible to get at the basis of her trouble simply by straightforward talks, and therefore association tests and an analysis of her dreams were undertaken. By means of this it was soon revealed that her fainting attacks had occurred in relation to the intense conflict about her auto-erotic behavior which had troubled her since infancy. The attacks were usually precipitated by some external reference, *e .g.*, social problems, difficult work, or imminence of her secret knowledge being discovered. After the general biological aspects of the natural instinctive life had been explained to the patient, and a plan of readjustment had been outlined and partially carried out, the patient was tremendously relieved. She was discharged 14 days after admission with a new point of view and with a safe and sound understanding of how to handle herself.

Here then was a case which had not reacted to general medical measures, but in a short time an excellent result was obtained by means of procedures which demand the training and patience of the specialist.

Before concluding, I want to cite still one more case to show how it is not the acute cases only which react to treatment, but also how occasionally long standing cases when subjected to intensive treatment by a careful going over of the causal factors may show a remarkable improvement.

A young lady, 27 years old, was admitted to the Clinic on June 27, 1913, in a rather inaccessible and impulsive condition. She kept repeating the same thing over and over again, continually said that she must go home and whenever anyone entered or left the ward, made a bolt for the door. She smiled and giggled in a stereotyped way, showed a great deal of facial grimacing, and could not be got to cooperate in a satisfactory mental examination, usually replying to questions with such an answer as "I don't know—I must go." She could not give any definite account of how she had been during the last two years. She seemed puzzled by the whole situation, would not recognize physicians whom she had known formerly, and apparently seemed the victim of inaccessible imaginative ruminations and blind impulses, with the characteristic features of dementia præcox.

The history of this case showed that this patient had always been a conscientious, quiet girl, who in some ways might have been characterized as precocious. She was brought up in absolute ignorance of sexual matters, and at school was told of a number of things which she felt that she ought to have known, and in consequence of which she accused her mother of having exposed her to ridicule. Previous to this, in 1904, she is described as having two tantrums of laughing and crying of short duration. In 1905 she went to school in Europe, but then became discontented, was very nervous, and while on board the ship returning home claimed that she was pregnant, and that the ship surgeon had taken advantage of her. Immediately after landing she was put in a private institution, where she is described as having been suicidal and impulsive, and having had a number of delusions. In 1907 some improvement occurred in her condition which lasted until 1911, when she again passed into a state of fancies, refused nourishment and kept repeating the same thing over and over again.

Here was a patient whom everyone would be inclined to designate as an absolutely hopeless case, but in whom a remarkable improvement has taken place during her residence in the Clinic. She is now able to employ herself in many useful ways, goes shopping, and behaves in general like a normal person. The full knowledge of the factors in the patient's life and of her reactions seemed to justify the patient's receiving hospital treatment, which was made possible because the parents were willing to cooperate in every way. It goes without saying that especially the period of improvement and convalescence is of the greatest importance for intensive treatment and for the laying of a safer foundation for the patient.

Enough has now been said to show how important it is to get away from using terms such as "borderland," "acute," "chronic," "insane," and "not insane," and that the only satisfactory basis on which patients can be received is one of willingness to cooperate, if possible, on the part of the patient and above all things on the part of the family.

ESSENTIAL SIALORRHEA IN A DOG, CURED BY EXCISION OF THE PAROTID, SUBMAXILLARY AND A PORTION OF THE SUBLINGUAL GLANDS.

By JOHN W. CHURCHMAN, M. D.

(From the Laboratory of Surgery, Yale University.)

In an exhaustive study of sialorrhea by André,[1] essential sialorrhea is said to be very rare, "if indeed it exists." It is defined as a neurosis in which sialorrhea is the only or predominating symptom and is said to follow traumatism or a slight infection, as in a case of Ball's, in which the condition developed after a cervical adenitis.

In the case here reported, sialorrhea of the most extreme type developed without apparent cause; it was accompanied by advanced and progressive asthenia and cachexia; excision of the glands was followed by complete cure of the sialorrhea and restoration of the moribund animal to normal; and examination of the excised glands showed no changes save an increase in size. The somewhat vague term, essential sialorrhea, seems therefore sufficiently justified as descriptive of the condition present.

The case was referred to me by a veterinarian, Dr. H. L. Tower, of New Haven. The animal was a Boston bullpup, a much-prized family pet. He had been healthy at birth, but shortly afterward began to drool saliva. At first this was the only symptom, but anorexia gradually supervened; and soon attacks of vomiting came on, the immense amounts of saliva swallowed causing constant gagging and frequent expulsion of

[1] André: De la sialorrhée. Paris Thesis, 1898.

FIG. 1.—Condition of dog before operation.

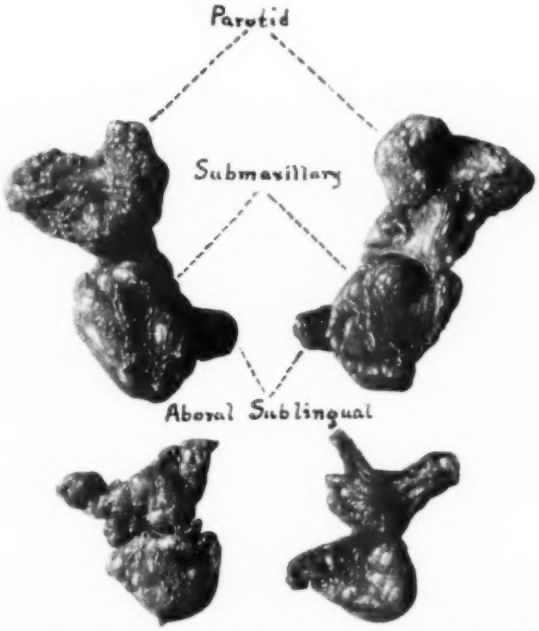
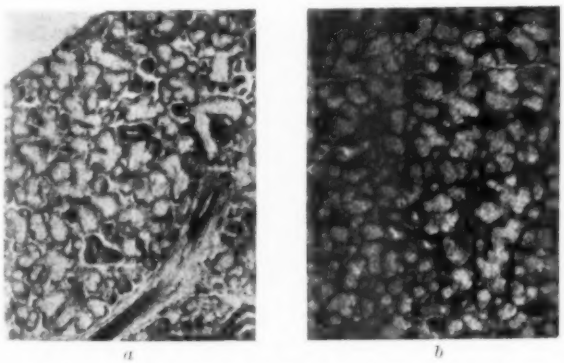


FIG. 3.—Removed glands (above), compared with glands from a normal pup (below).



a *b*

FIG. 6.—Low power microscopic sections of the submaxillary gland: *a*, from the case of Sialorrhea, and *b*, from a normal pup.

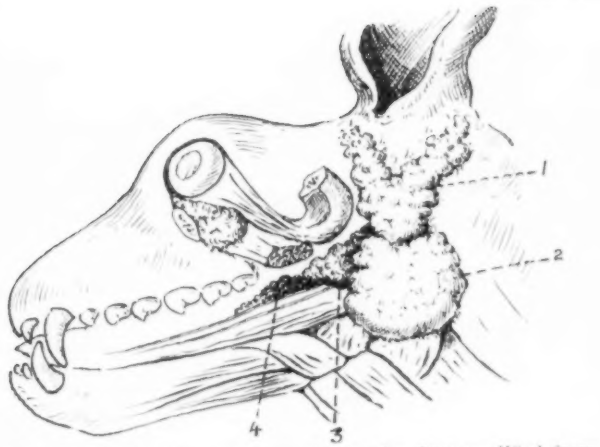


FIG. 2.—Sketch of the salivary glands of a dog; modified from Ellenberger and Baum, showing the glands removed, in the case reported.

1. Parotid gland.
2. Submaxillary gland.
3. Sublingual gland—aboral portion.
4. Sublingual gland—oral portion.

1, 2 and 3 were excised; 4 was left.

FIG. 4.—Condition of dog 7 months after operation.

FIG. 5.—Condition of dog 7 months after operation.

the saliva from the stomach. The animal refused food, became spiritless and was dying of asthenia and starvation.

On admission the dog, an affectionate little animal, was little more than skin and bones. He weighed 3375 gms. (see Fig. 1, which really fails to do justice to the emaciation). He was quite weak, moving about languidly in search of a sunny spot to lie down in. The jaws were constantly dripping saliva and the bed made for him was kept soaked. Every little while large amounts of saliva were vomited. He could be made to take food only with difficulty, and was altogether a pitiable object to behold. Abdominal examination was negative and no signs of paralyses or other nervous lesions were discovered. Greatly enlarged salivary glands could be felt beneath the lower jaw, reaching in a crescent from the root of one ear to the root of the other. No chemical analysis of the saliva was made; nor was its ferment coefficient determined.

Under ether, excision of both parotids, both submaxillaries and both sublinguals, was done. The oral portion of the sublinguals was left (see Fig. 2). The glands were evidently enlarged (see Fig. 3), but were otherwise unchanged. The postoperative convalescence was without event. The wound healed nicely and there was almost no general reaction.

For a few days following operation a rather more than normal amount of saliva was secreted, but nothing that could be called sialorrhea was observed. The dog's bed remained dry, there was no gagging or vomiting; and on the tenth day the dog, though still weak, was able to be taken home. Here rapid recovery began and has since continued. Salivation has ceased entirely; the dog is in every respect normal. He runs and plays actively, eats well, and now weighs 6770 gms., nearly twice what he weighed on admission to the laboratory (see Figs. 4 and 5). He is still small in frame.

The literature of sialorrhea has been completely reviewed by André. On account of the not ready accessibility of his publication and the rarity and interest of the condition it may be useful to present a brief synopsis of André's findings.

If sialorrhea be classified according to etiology, the following types may be recognized:

1. Essential sialorrhea. By this term is understood a neurosis in which abundant secretion of saliva is the only or predominating symptom. It is rare, if it exists.
2. Nervous sialorrhea. Here are grouped the cases which depend on:
   a. Epilepsy.
   b. Hysteria. Many of the cases fall in this group. The excessive salivary flow may be determined by an emotion, a sharp odor, an acid taste, etc. It may last months and make the prognosis grave. Bloody salivation has been observed by Mathieu, the blood coming from the glands themselves.
   c. Neurasthenia.
   d. Exophthalmic goitre and myxœdema.
   e. Rabies.
3. Sialorrhea due to an organic nervous lesion. It is seen in:
   a. Paralysis agitans.
   b. Diseases of the medulla:
      i. Labio-glosso-pharyngeal paralysis.
      ii. Progressive muscular atrophy, poliomyelitis and other diseases involving the labio-glosso-laryngeal centers.
   c. Diseases of the cord with progressive involvement.
   d. Diseases of the brain: hemiplegia, Jacksonian epilepsy, general paralysis.
   e. Mental diseases: acute mania, idiocy, dementia, hypochondria.
   f. Affections involving the cranial nerves, particularly the facial. Sialorrhea only occurs when the lesion is central, for division of the facial causes decrease in salivary secretion. The sialorrhea is due to the removal of cerebral inhibition on secretion. In tic douloureux the salivary crisis may accompany, follow or replace the painful crisis.
4. Sialorrhea with visceral disease.
   a. Digestive:
      i. Diseases of the buccal cavity: stomatitis, parotitis, dentition in infants, etc.
      ii. Stomach. Sialorrhea may accompany hyperchlorhydria. In some of the cases the saliva accumulates in the œsophagus and is vomited, to be followed by vomiting of gastric contents (elective vomiting).
      iii. Intestinal parasites.
      iv. Diseases of the pancreas.
      v. Diseases of the larynx: cancer, etc.
   b. Diseases of the genito-urinary system.
      In women, sialorrhea may appear at various periods in the genital life: at the menopause, at the monthly periods and particularly during pregnancy ("This symptom in a young woman ought make us suspect pregnancy"—Tarnier). The sialorrhea in pregnancy has in some cases disappeared after a fictitious abortion.
5. With infections and intoxications.
   Examples are the sialorrhea seen in mumps, smallpox, malaria, gout, etc., and the critical salivation of pneumonia. Of the substances elaborated in the body and excreted, some (like bile and sugar) are not found in the saliva, but uric acid is occasionally found there. Some substances eliminated in the saliva excite salivation only feebly or not at all (*e. g.*, potassium iodide); others, like mercury, are true sialogogues.

Histopathology.—Of the histopathology of sialorrhea little or nothing is known. The well-known changes described by physiologists and pathologists as the result of prolonged physiological stimulation have usually been assumed to be present

in the condition of secretory activity which expresses itself clinically in sialorrhea. So far as I am aware no resection of the glands has previously been done for this condition; and a description of the specimen removed in this case is therefore given.

There was obvious macroscopic enlargement of the salivary glands, which formed, as I have said, a crescent reaching from ear to ear. The comparison of the glands removed, with a similar specimen from a healthy pup of about the same size and age is shown in Fig. 3. The glands removed weighed 28.2 gms.; the normal glands 7.5 gms. When examined with the low power, the alveoli with their basement membrane are seen to be retracted from the interstitial tissue. This is not due to atrophy of the alveoli, which are well developed, nor to atrophy of the individual cells, which seem to be as large as those of the normal gland. The interstitial tissue is actually diminished in amount and forms a much smaller proportion of the whole section than in the normal gland. The interalveolar spaces are, therefore, more evident and the glands less compact in structure than the normal glands. There is no definite change in the high power picture of the secreting cells, nor of the demilunes. The mucous cells are large, the lumen of the alveoli very small, the nuclei lie at the base of the cells, and the protoplasm fails to stain. The picture, strangely enough, is that of the loaded or charged state usually associated with freedom from secretory activity (see Fig. 6).

OBSERVATIONS FOLLOWING THE USE OF COLLARGOL IN PYELOGRAPHY.

By Cecil W. Vest, M. D.,

Late Resident Gynecologist, The Johns Hopkins Hospital.

Abdominal surgeons and urologists are often called upon to diagnose renal conditions and tumors or to exclude the upper urinary tract from the other organs considered. In this field, as in all other branches of medicine, anything which will aid in differential diagnosis is eagerly employed. Recently the plan of injecting the renal pelvis with collargol and then taking an X-Ray picture has been used in urinary clinics. From such a radiogram, the outline of the upper urinary tract can readily be made out, and this is of marked value in determining the size, shape and position of the renal pelvis and ureter.

For the past three years this method has been followed in the gynecological department of the Johns Hopkins Hospital, and our attention has been called forcibly to symptoms and conditions, which at times follow the use of collargol. In many of the public ward and dispensary cases so treated here, no symptoms whatever have been noted as a result, but a few patients have caused us some uneasiness by their reactions.

The technique used by the author has been practically uniform in all cases. After catheterizing the ureter desired and measuring the capacity of the renal pelvis, the patient is made ready for an X-Ray picture; then the renal pelvis is injected, the photographic exposure made and the collargol allowed to run out, so that it does not remain in the renal pelvis more than two or three minutes. The injections * are made slowly and carefully with a piston syringe. When the patient first feels a fullness or tightness in the side, the injection is stopped. In order that as small an amount as possible of the collargol might remain in the pelvis, for the past six months we have irrigated it with sterile water. A 15 per cent solution of collargol is used ordinarily, but a 10 per cent solution has been tried in a few cases. No difference in the symptoms has been noted with the weaker solution, while a better shadow, especially in fat patients, is obtained with the stronger solution. Tennant † used a 25 per cent solution in a second injection.

The collargol is never sterilized and is always thoroughly shaken before the injection. In many cases the material was warmed before using. The solution is usually used within one or two days after preparation, but in some cases it had been kept for ten days or two weeks in a tightly stoppered bottle from which evaporation was prevented.

In the histories of the six cases that I report, the constitutional disturbances noted are all recorded. The chief complaint in the injection, whether with water or collargol, of the renal pelvis is pain, which occurs probably in one-fifth of the cases. The pain is persistent, often lasting from one to three days, while in one of my cases it was necessary for the patient to remain in bed ten days following the injection. Nausea and at times vomiting are associated with the renal pain. In three cases there has been a rapid rise of temperature following the

* To avoid possible injury to the kidney from an injection made under pressure, the plan of allowing the fluid to run into the renal pelvis by gravity has been tried. An instrument for this purpose is shown in Oehlecker's[1] article; it is quite simple, consisting of a glass measuring cylinder from the lower end of which a piece of rubber tubing about 4 ft. in length leads to the renal catheter. The cylinder can be placed at any desired height.

Thomas,[2] of the Mayo Clinic describes a similar instrument for the same purpose. A Y-shaped tube is attached to the lower end of a titrating buret. To one end of this tube is attached a piece of rubber tubing 4 ft. in length. A needle to be inserted in the renal catheter is fastened to the other end of this tube. The other arm of the Y connection empties the buret which is supported by a telescoping stand.

† Here[3] the author has graphically shown by photographs and micro-photographs the presence of collargol in the kidney substance. At operation two weeks after injection an infected area about 2 inches wide was found to be infiltrated with collargol and the capsule covering this area was lifted from the parenchyma by a layer of collargol. This mass extended down to the renal pelvis and was resected without going into the pelvis.

injection. These cases were under observation from one to three days before the catheterization, and each had a normal temperature. In Case VI the verified rectal temperature on the third day following the injection was 102.4° F., while on the fourth it was 104° F.

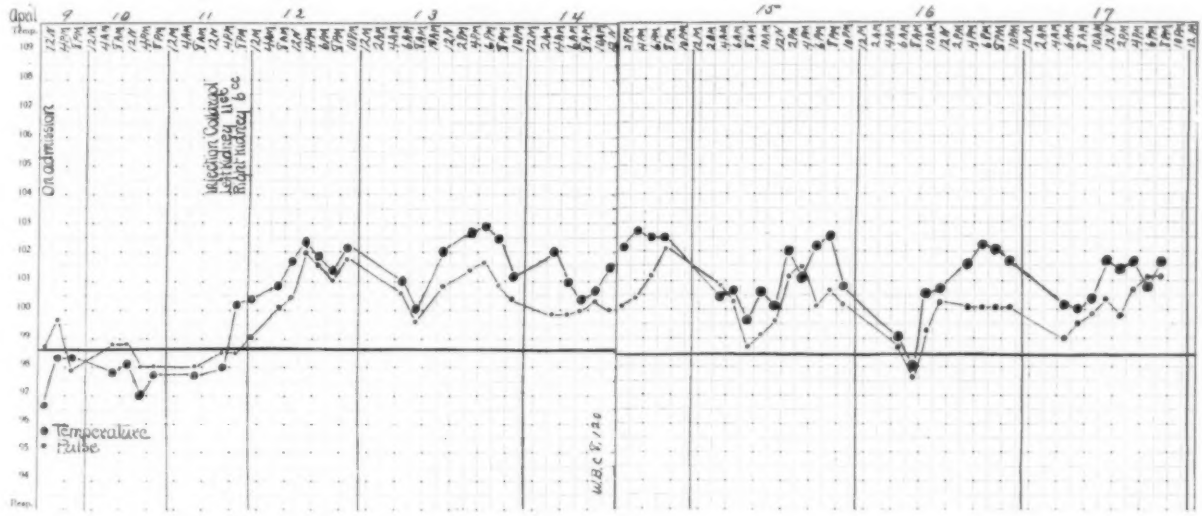
The urine of these cases before the injection was normal. Following it, it is not unusual to find white blood-cells and hyaline and granular casts which may persist for four or five days. Albumen is also present in definite amounts for varying lengths of time. Cases II and III showed small amounts when discharged and Case VI some eleven weeks after the injection. In the five cases operated upon, the presence of collargol was noted in the kidney or retroperitoneal tissues. In Case I there was an escape of approximately 15 cc. of dark brown fluid when the kidney was exposed, while in another a small amount was found in the peritoneal cavity. In Case VI the retroperitoneal abscess was undoubtedly caused by the presence of the collargol which was noted at the first operation five days after the injection. Associated with the discoloration of the perirenal and periureteral tissues there is definite edema of these structures. No urine was at any time noted in the retroperitoneal space, nor did the exudate have a urinary odor. Whether the collargol escaped from the renal system by osmosis or rupture of the kidney or ureter is not clear. Inasmuch as at operation the kidney cortex has been seen to be stained and the pad of perirenal fat been found evenly discolored by the collargol, the escape is thought to be due probably to osmosis. The renal pelvis and upper portion of the ureter were examined where it was possible, but no lesion was found.

Many of these cases occurred in a series which were injected for the purpose of studying the renal pelvis in nephroptosis.

All excepting Case No. I have been catheterized and injected by the author.

CASE I. Gyn. No. 18414. Age 33. White.

Complaint.—Pain in the left side of back and left abdomen; painful urination. May 28, patient was cystoscoped and the left kidney catheterized. Collargol was injected and an X-Ray picture taken. *Operation.*—May 29, upon exposing the left perirenal tissues, there was an immediate escape of approximately 15 cc. of dark brownish fluid, resembling collargol. The perirenal tissues were deeply stained a dark brown color. The kidney was normal in size. A small stab wound was made in the convex border and the pelvis explored. No evidence of stone or pus. A small rubber catheter was placed in the kidney. Patient had acidosis from the second to the fifth day, and acute dilatation of the stomach on the tenth. She improved from this time on until the fourteenth day, when there was marked bleeding from the incision and nose, and hæmatomata formed at needle punctures where subcutaneous infusions were given. The patient became very much weakened and drowsy. Pulse became slightly weaker. She died on June 12. No autopsy was obtained. *Urine.**—May 26, many R. B. C., and W. B. C. No casts (catheterized specimen). May 30, almost pure blood. June 5, W. B. C., a few R. B. C., and fine and coarsely granular casts voided. June 8, the same as at the last examination. Acetone and diacetic acid, negative. Albumen positive in all tests. The course of a case described by Rössle[4] is quite similar to the one just mentioned. The hemorrhagic diathesis is especially interesting. The kidney was injected with collargol previous to operation. On the 8th day after operation the patient developed a sever hemorrhagic diathesis with parenchymatous bleeding in stomach, rectum and lungs. No cause for this condition is known, but is thought to be due to local renal injury caused by the injection of collargol and subsequent sudden absorption of the pure silver salt. At autopsy the tubules were filled with collargol which was pressed under the kidney capsule. Some of the tubules were seen to be broken. The renal area was edematous. In the liver, areas of necrosis were noted which were quite similar to those found in beginning eclampsia.



CASE II.—Gyn. No. 19227. Both kidneys injected. Elevation of temperature began 8 hours after injection and continued for 9 days. No operation.

Rosenblatt and Margandies[5] (Odessa), at the Congress of the *Deutschen Röntgen-Gesellschaft*, March 29, 1913, demonstrated the kidneys and ureters of a patient who died following the injection of collargol for diagnostic purposes. No rupture was seen in the specimen.

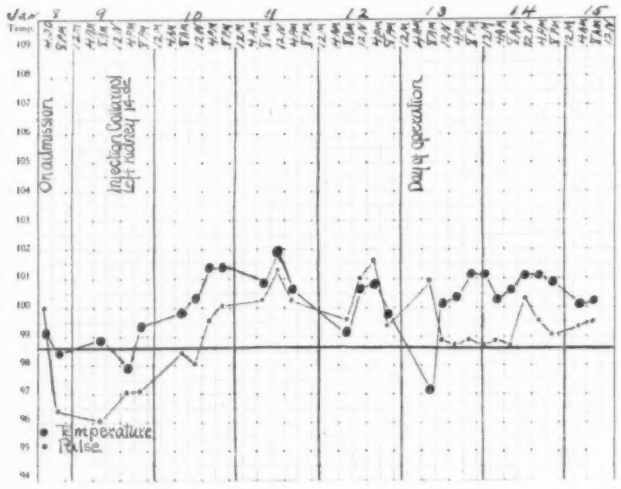
* The tests for sugar in the urine of the cases here reported were negative.

No mention is made of the method of injection used in these cases.

Prof. Rovsing (Copenhagen) does not use collargol in his cystoscopic work, preferring to make his diagnoses by other means. (Personal communication.)

Case II. Gyn. No. 19227. Age 18. White.

Complaint.—Pain in right side of abdomen. April 11, both kidneys catheterized. 6 cc. of collargol injected into the right pelvis and 11 cc. into the left. X-Ray picture taken. Following the examination, the patient had quite severe pain in each side which lasted until the second day. Temperature eight hours after injection, 100.2° F. No operation. *Urine.*—Both kidneys the same. Sp. gr. 1004. Albumen absent. A few epithelial cells. April 13, patient has a "soreness" in each hypochondrium. Temperature 102.6° F. *Urine:* Catheterized specimen.—April 14, sp. gr. 1015. Albumen present. Reddish yellow sediment and masses of R. B. C., and a few W. B. C. Granular and hyaline casts. Considerable tenderness in left hypochondrium. Temperature 102.8° F. W. B. C., 8120. April 15, sp. gr. 1010. Albumen present; also R. B. C. and W. B. C. No casts. Condition improved. Temperature still



Case IV.—Gyn. No. 18978. Left kidney injected. Temperature elevated 8 hours after injection. 102° F. on 3d day.

elevated. Patient remained in the hospital for ten days longer when she was discharged feeling quite well. Wassermann test negative. Calmette tuberculin tests, 1 per cent and 5 per cent, negative. When patient left the hospital, there was a slight trace of albumen, and some blood cells noted as present in the urine.

Case III. Gyn. No. 19121. Age 30. White.

Complaint.—Pain in right side under costal margin. March 3, right kidney is in descensus, the upper pole being quite readily palpable. The ureters were catheterized, the urine from each side being negative. 21 cc. of collargol were injected into the right renal pelvis and an X-Ray picture taken. After the injection a catheterized specimen of urine from the right kidney showed some albumen, no casts, and a few red and white blood cells. *Operation.*—March 6, suspension of the right kidney. The kidney was slightly stained a deep brownish color. There was also a slight discoloration of the perirenal fat. Convalescence uninterrupted. A positive amount of albumen was found in the urine after the operation, which amount was present upon discharge, March 27. Both specimens were voided. No casts.

Case IV. Gyn. No. 18978. Age 45. White.

Complaint.—Pain in left half of abdomen. Left kidney was movable, slightly tender and lower half palpable. January 9, ureters were catheterized and 14 cc. of collargol was injected into the left renal pelvis. The urine from each kidney was normal. There was marked elevation of temperature three days following the injection. *Operation.*—Fourth day after injection, January 13. Suspension of left kidney. The kidney and perirenal fat at the operation were found to be deeply injected, these tissues having a deep brown color. There was a small amount of serous material, stained the same color, about the kidney. A small sinus which drained the perirenal area persisted at the lower angle of the incision until the end of the third week. Patient was discharged February 12, well.

Case V. Gyn. No. 19142. Age 33. White.

Complaint.—Dull aching pain under right costal margin and in right lower back. Right kidney quite movable and in descensus. It can be depressed to the anterosuperior spine and to the median line. Left kidney normal. March 11, 30 cc. of collargol were injected into the right kidney and an X-Ray made. Patient had quite severe pain for six hours following injection. March 12, urine, clear. *Operation.*—March 12, suspension of the kidney. Appendectomy. There was a small amount of dark colored material (collargol) in the perirenal tissues. The pelvis was large and boggy but the kidney was normal in size and outline. The kidney and perirenal tissues were seen to be stained a deep brownish color. There was a small amount (approximately 2 cc.) of black fluid in the peritoneal cavity. *Urine.*—March 13, albumen present; many W. B. C. and R. B. C., and fine and coarsely granular and hyaline casts. Convalescence uninterrupted. This case is of interest because collargol-like material was found in the peritoneal cavity.

Case VI.* Gyn. No. 19249. Age 32. Black.

Complaint.—Pain in right abdomen. April 21, right kidney catheterized. 10 cc. of collargol injected and an X-Ray picture taken. April 22, patient had nausea and vomiting yesterday and to-day. April 24, patient is fairly comfortable but has some pain in the lower right abdominal quadrant. No muscle rigidity. Temperature continues elevated since last night, 102.5° F. W. B. C. 16,800. April 25, continues practically the same. W. B. C., 21,200. Temperature 104° F. *Operation.*—April 26, both tubes and the appendix removed. There was a mild chronic pelvic inflammatory disease. The abdomen was opened through a median line incision. There was marked discoloration (a deep brownish and in parts blackish) noted throughout the right half of the pelvis and abdomen, extending to the lower pole of the kidney. This discoloration was entirely retroperitoneal. The adherent appendix was removed. A drain was placed through the cul-de-sac. Patient had a continued elevation of temperature, for the most part between 102° and 103° F. and at one time 105° F. This condition continued for 12 days after the operation when the temperature fell, remaining for a week at about 100° F. During the next ten days there were daily elevations of temperature, varying from 100° to 103.8° F. Suspecting the discoloration of the retroperitoneal tissues to be the cause of this disturbance, an incision was made in the right flank. There was an immediate escape of about 2ozs. of thick yellowish pus which contained definite fecal material. Digital exploration was carefully made to make sure no further pockets existed and a drain was placed in the incision. Fecal material was noticed on the dressings on the second day. The fistula persisted for 11 weeks. During the last three weeks of this period the fistulous tract was given a continuous irrigation of tap water five hours daily. In the week after the second operation the temperature remained between 102° F. and 104° F., but gradually fell. In the six weeks following there were numerous elevations to 103° F., twice to 105° F., and twice to 106° F. (All temperatures over 101° F. are rectal and over 103° F. are verified.) Widal

* A case quite similar is reported by Oehlecker in his interesting article. In our case a first radiogram was negative for stone.

and blood cultures negative. Haemoglobin 68 per cent. Fresh blood examination negative. On the 113th day after the first operation she was discharged well. *Urine.*—April 19th on admission, sp. gr. 1021. Albumen absent. Few W. B. C. No casts voided. April 22, sp. gr. 1020. Albumen absent. Cellular and hyaline casts. No R. B. C or W. B. C. (catheterized specimen). April 26, sp. gr. 1021. No albumen. Many hyaline and many fine granular and cellular casts. No R. B. C. (voided specimen). April 27, after operation, sp. gr. 1019. Slight trace of albumen. Many fine granular, cellular and hyaline casts. No W. B. C. or R. B. C. (catheterized specimen). There was a trace of albumen in all the examinations of the urine during the patient's stay in the hospital. There is no doubt but that the retroperitoneal necrosis and abscess in this case followed the widespread dissemination of collargol noticed at the first operation.

The unusual symptoms in these six cases, following injections of collargol, and especially the course of the last case seem worthy of record.

these symptoms, there are definite urinary changes. The examinations have shown W. B. C., R. B. C., with hyaline and granular casts to be present three days following the injection; casts for nine days; and albumen in two cases for 24 days; while in a third a trace was detected after 118 days.

In three cases where collargol was used, death has followed, but it is not evident that it was precipitated by the collargol.

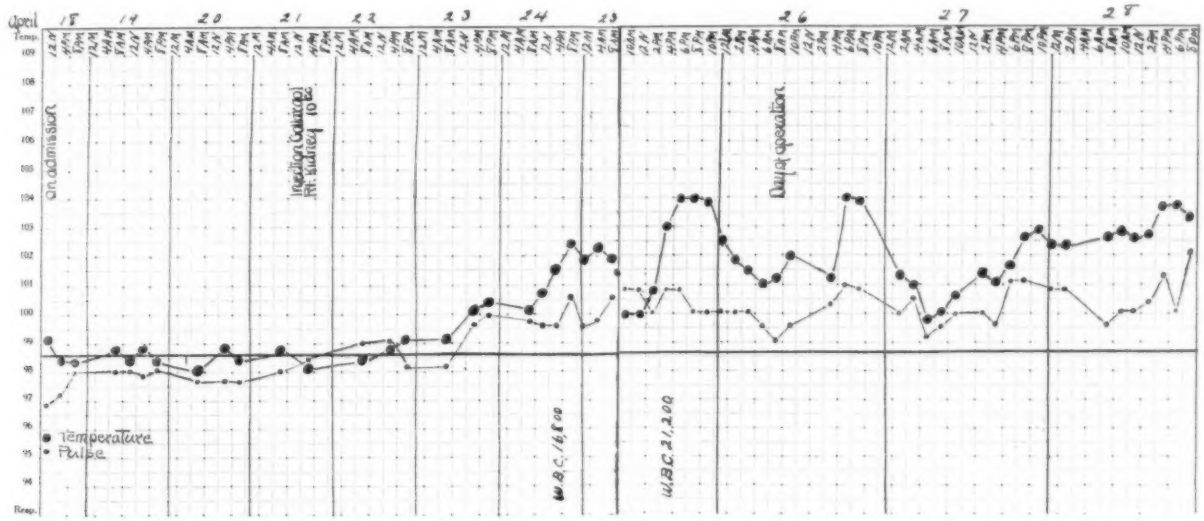
Collargol should be used only when absolutely necessary.

It should be allowed to run into the renal pelvis in small amounts and under very low pressure.

A freshly prepared solution, not over 15 per cent, should be used.

It is necessary that the symptoms here mentioned be known by those using this method of pyelography, and especial care be exercised to avoid their occurrence.

On account of the results here shown some other medium



CASE VI.—Gyn. No. 19249. Right kidney injected. Elevation of temperature began on 3d day following. 104° F. on 5th day. Retroperitoneal abscess.

Summary.—At operation, collargol has been found in the kidney and perirenal tissues in five of our cases, and in one case in the peritoneal cavity. The kidney and perirenal tissues in these cases were colored dark brown or bluish black and were edematous. The amount of discoloration was noticed in one instance to extend throughout the entire retroperitoneal space of the side injected. In this case a retroperitoneal abscess developed which necessitated a second operation.

The time between the injection and operation varied from one to five days.

Both 10 per cent and 15 per cent solutions were used. No difference in the resulting clinical symptoms was noted.

Pain may be quite severe, lasting for two or three days, and once for 10 days.

As shown by the charts there may be a definite rise in temperature, 102° F. being reported in two cases and 104° F. in another.

While no case of nephritis has been shown to accompany must be sought which will give a shadow but not injure the renal substance. After a more extensive use of silver iodide emulsion, this material may be found to serve well.

During the past five months Prof. Kelly [6] has been using it in pyelography and has found it quite satisfactory.

In conclusion, I wish to express my thanks to Prof. Kelly for his suggestions in this work and the privilege of reporting these cases. I am also indebted to Prof. Rovsing for his suggestions and the references sent me.

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4. Rössle: München. med. Wchnschr., 1911, lviii, 280.
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KOPLIK'S SPOTS OCCURRING ON THE TONSILS OF A CHILD SUBSEQUENTLY FOUND TO BE ANAPHYLACTIC TO EGG-ALBUMEN.*

By Sydney R. Miller, M. D., Baltimore, Md.

The following case is reported for two reasons: First, because of the unusual and misleading symptoms at the onset, and second, for the reason that it presented, it is thought, characteristic Koplik's spots in a manner hitherto not described.

Present Illness.—On the evening of March 29, 1913, I was hastily summoned to a neighbor's home by a telephone message, saying, "The baby is choking to death." I found the child, a girl of ten months, seated on its mother's lap, very cyanotic, breathing rapidly, and with a to-and-fro stridor that was audible as soon as one entered the door of the house. This condition had come on without warning within the space of about ten minutes, and while in the mother's arms; she was positive that the child had swallowed nothing. For some three or four days the baby had been unusually restless, fretful and hard to feed, symptoms attributed by the mother to teething. There had been no cough, coryza, or conjunctivitis. The baby was a full-term infant of normal delivery and breast-fed.

Physical Examination.—Temperature, 104.5° F. Pulse, 160. Respiration, 60 to 70. The eyes and ears were quite negative. So far as could be determined the lungs were clear on percussion and auscultation. Aside from its rapidity, the heart seemed normal in size and action. The skin was clear, hot, and dry.

The most interesting finding was in the throat, which was examined with the aid of a pocket electric light equipped with a Tungsten bulb, which furnishes a white light. The entire buccal and pharyngeal cavity was of an intense dusky red color; no Koplik's spots were to be seen on the lips or cheeks; the uvula was swollen. There was not the slightest evidence of a membrane in the throat. The tonsils, however, were remarkably swollen and succulent, nearly touching each other in the mid-line when the child gagged; on each tonsil there were visible some 25 or more small bluish, semitransparent, elevated bodies, averaging considerably less than the size of the head of an ordinary pin; three were visible on the anterior pillar on one side; the majority of them showed a minute white dot in the center of the otherwise bluish-gray structure. The appearance was that of minute vesicles, peppered over a diffusely red base. The structures in no way suggested a follicular tonsillitis; indeed, I had no notion of, nor time to speculate, concerning their identity. Smears, made while the child was gagging, subsequently showed no Klebs-Loeffler bacilli, nor were the spots described above in any way perceptibly damaged in the process of swabbing the throat.

The child was with difficulty given an effectual enema, following which her feet were placed in a hot mustard bath, and a steam kettle was started in the immediate vicinity. Attempts to induce vomiting were ineffectual. About half an hour after starting the foot-bath, or about one hour from the time of onset, there was decided improvement: the respirations had fallen to 35 or 40, the stridor was less marked, the pulse slower. Simultaneously with the relief of symptoms there occurred, first on the forehead and face, a dusky, reddish mottling, and, almost as one watched it, this eruption became more and more outspoken, so that within three hours from the time of invasion, the child, now absolutely free from respiratory distress, was literally covered from head to toe with a rash characteristic of measles. Exhausted, the baby fell into a deep sleep.

The next morning the temperature was 103.5° F. The face was distinctly swollen and the conjunctivæ quite red. The rash was outspoken, hyperemic, and easily palpable under the skin. There now was a cough, and definite signs of a bronchitis over the right chest. Examination of the mouth again showed a total absence of Koplik's spots on the cheeks or lips; the elevations on the tonsils were somewhat larger and whiter in the centers, though each one remained discrete. By the following day these spots had practically disappeared; that is, within 48 hours from the time of onset, the tonsils, meanwhile, having subsided to a nearly normal size and appearance. By evening of the third day the temperature had fallen to 99° F., and the rash had commenced to fade, though leaving behind it a rusty discoloration of the skin, still visible two weeks after the onset. There was slight, but definite, desquamation associated with pruritus. The child made an uneventful recovery.

Exactly two weeks prior to the sudden attack above described, the baby's sister, four years of age and also my patient, had come down with measles. She had had three days of prodromal sneezing and coryza, and some conjunctivitis, before I saw her; during those days the two children had played together and slept in the same room. The sister had a severe attack of measles, complicated by an otitis media. There were other cases of measles in the neighborhood, and a serious epidemic was prevalent in Baltimore. These facts, taken in conjunction with the clinical course of the disease, fully justified, it is thought, the diagnosis of measles, and the opinion is advanced that the eruption seen on the tonsils was an aggregation of characteristic Koplik's spots in an unusual location.

The typical enanthem of measles, first adequately studied by Henry Koplik,[1] of New York, in 1896, is described by him as follows:

> On the mucous membrane lining the cheeks and lips we see a distinct and pathognomonic eruption. This consists of small irregular spots of a bright red color; in the center of each spot is the interesting sign to which I wish to call attention. In strong daylight we see a most minute bluish-white speck. These minute bluish-white specks in the center of a reddish spot are absolutely pathognomonic of beginning measles. I have never met them elsewhere, and when once seen they are a certain forerunner of the skin exanthema. These bluish-white specks are sometimes so delicate that they can be seen only in a strong window light. No

* Read before the Johns Hopkins Hospital Medical Society, May 5, 1913.

one has ever called attention to these bluish-white specks as a forerunner of the skin eruption. Their background is the irregular red spots referred to above. They cannot be mistaken for sprue, for they are not so deeply white, nor are they as large as sprue spots, and sometimes we must, as I said, look sharply and evert the mucous membrane of the cheeks to find them. These bluish-white specks surrounded by a red area are found, as I said, on the mucous membrane of the cheeks and lips and not on the soft or hard palate. Sometimes only a few red spots exist with their central bluish points, a dozen or more, and again these whitish specks may cover the whole lining membrane of the cheeks and lips. If these bluish-white specks on a spotted background are at the height of their development, they never become as white and opaque as sprue spots, and therefore can be easily differentiated after having been once seen. Nor do they ever coalesce to become plaque-like in form. They always retain their punctate character. If the mouth has been washed these spots may have been rubbed off, and then the appearance is lost.

As the exanthema on the skin appears and spreads, the eruption on the mucous membrane inside of the cheeks and lips becomes diffuse and the characters of a discrete eruption or spotting disappear, and we have an intense general redness which is simply dusted over with myriads of these bluish-white specks. This being so, it will be seen that this eruption of bluish-white specks on a spotted or red background is of the greatest value at the very outset of the disease, before the appearance of the eruption; also at the beginning and height of the skin eruption. When the skin eruption or exanthema is at its efflorescence, the buccal eruption begins to fade and gradually disappears, even while the exanthema is still out. In the later stages of the fading skin eruption the phenomena described above are no longer seen.

In a personal communication Dr. Koplik states: "The measles enanthem, when at its height, can be seen on the buccal mucous membrane, the lips, fauces, roof of the mouth, conjunctivæ, and larynx; Koplik's spots never appear as you describe them." Dr Howland states that he has never seen the spots on the tonsils; and Dr. von Pirquet, to whom I told my experience, gave me a similar answer. In a fairly exhaustive search through the literature, it has been thus far impossible to discover the mention of any analogous case, though Koplik's spots are described in nearly every other locality, including the intestines. It was suggested by Dr. Koplik that the case was possibly one of Rötheln, or German measles, in which the "Röthelntasche" of Forscheimer and Thomas[2] was seen. This is tersely described as consisting of "minute, bright, rosy-red points, seen on the uvula and soft palate, rarely on the hard; it is present only in the first 24 hours." "They resemble Koplik's spots very much, but fail on close study to show the minute bluish-white speck." * This latter feature was prominent, however, in this case. German measles has not been prevalent hereabouts. The rash was typically that of measles, and accompanied by constitutional disturbances certainly more severe than is met with in Rötheln. The rash, moreover, left a slowly fading discoloration; there was no adenitis and the child had been exposed to measles. These features make the diagnosis of Rötheln certainly remote. That the elevations were not merely projections of swollen tonsillar crypts was manifest by their rather close grouping, translucent appearance, small size, evanescent existence and the presence of several on one pillar. There is the possibility that the case was one of undoubted measles, showing at the onset herpes simplex, localized on the tonsils. Facial herpes in measles is not uncommon, appearing generally at the same time as the eruption, or a little earlier. The same is true of herpes zoster; neither one causes "any noticeable variation to the usual course of measles." It is, therefore, quite conceivable that a true angina herpetica might occur, but the lesions did not run through the usual herpes cycle; they never coalesced, they were never closely enough packed together, little ulcers did not form, nor did the vesicles become more and more milky white during the short period of their existence. Sprue was absolutely ruled out. In view of these facts, it seems not unreasonable to conclude that in a case subsequently running the typical course of measles, true Koplik spots occurred on and were curiously confined to the tonsils, preceding the rash and disappearing within two days after its appearance.

Other interesting and uncommon features in the case were these: First, the unusually acute onset with signs of laryngeal obstruction. Laryngeal diphtheria, foreign bodies, acute œdema of the glottis and mediastinal conditions called for consideration. All of these conditions were ruled out by the rapid disappearance of the laryngeal symptoms, which were doubtless due to a combination of acute catarrh and spasm of the glottis. Rolly,[3] in a series of 800 cases of measles, observed severe initial laryngeal symptoms in only seven instances, in patients varying in age from eight months to three years; in all the symptoms followed the appearance of the rash. Huebner[4] states that the disease may commence with unusual severity, particularly in very young children: "The laryngeal submucosa may be so greatly swollen that serious symptoms of pseudo-croup may usher in the disease." Still,[5] in discussing "Laryngitis stridulosa," in his admirable book on "Common Disorders of Childhood," says: "A practical point to be remembered in diagnosis when a child becomes hoarse and stridulous, and has a high temperature, is the occurrence of the symptoms as part of the invasion of measles. I have repeatedly seen this acute laryngitis of measles mistaken either for ordinary catarrhal laryngitis or for diphtheria, and have seen tracheotomy done—whereas the appearance of the rash, 24 hours later, showed that the symptoms were due to the pre-measles laryngitis. The stridor and obstruction to respiration in these cases usually subsides as soon as the rash appears." It would seem, however, that a laryngitis, developing with this alarming rapidity and followed so soon by the eruption, is quite unique. That such an event may occur is a matter of considerable diagnostic importance, especially during an epidemic of measles.

No less striking was the sudden subsidence of respiratory distress synchronous with the initial appearance of the rash, and the almost perceptible spread of the eruption, involving the entire body, in a matter of about three hours. Holt[6] states that the entire body may be covered in a few hours, while most other writers are content in stating that in certain cases the rash may spread with unusual rapidity. Dr. von Pirquet, in his recent exhaustive monograph on the skin manifestations

* Dr. Koplik.

of measles, makes the italicized statement that "a complete development of the enanthem inside of a single day speaks against measles." Yet, even if his ingenious hypothesis of progressive intracapillary agglutination of the causative agents of measles by specific anti-bodies, advanced to explain the nature, initial location and subsequent spread of the enanthem, be true, one may still conceive of a sudden, explosive-like dissemination of agglutinins and rapid fixation of antigen throughout the entire body, manifested, as in this case, by speedy and complete development of the eruption.

Finally, experience in this case strengthens the widely prevalent idea that a hot bath, given to "bring out the rash," has a decided beneficial effect. Certainly, the result here was most remarkable, though mere coincidence cannot be ruled out. Heubner, in speaking of cases with severe laryngeal symptoms, states: "They are effectually influenced by a suitable antiphlogistic therapy."

It is hoped that verification of these unusual findings may ultimately be forthcoming, or that errors in diagnosis, not patent to the author, may be revealed.

On the day prior to that on which this report was read, it was accidentally discovered that the child in question was markedly anaphylactic to egg-albumen; this was made manifest by alarming laryngeal distress, fever of 103° F., and the rapid development of an urticarial rash that literally made the child's features unrecognizable. These symptoms came on within about a half hour after feeding the child some egg-white and orange juice, and quickly subsided under treatment precisely the same as that used at the onset of the attack of measles. Though the tonsils were swollen, there was not the slightest evidence of an eruption upon them or any other part of the buccal cavity. Similar negative findings occurred during a subsequent milder anaphylactic reaction, purposely induced.

As a result of questioning, it developed that on the very evening of the day on which the child's illness commenced it had been given egg-white for the first time, so far as is known, in its life, a detail which quite naturally had never entered the mother's mind as being in any way associated with the severe symptoms described. While there exists no reasonable doubt as to the genuineness of the attack of measles, the egg-white anaphylaxis introduces a new factor which makes it quite impossible to say to just what the alarming manifestations at the onset were wholly due. The entire illness may have been measles alone, in an intense form, as was thought; on the other hand, despite the apparent lack of previous sensitization, anaphylactic phenomena, by a curious coincidence may have ushered in, and considerably hastened the clinical manifestations of measles. In any event, it seems unlikely that anaphylaxis had any share in causing the tonsillar eruption thought to be that of Koplik's spots.

A von Pirquet test performed with egg-white and suitable controls induced a speedy and marked local reaction associated with a mild constitutional disturbance. It was subsequently found that a constitutional reaction followed the administration of one teaspoonful of a mixture composed of one pint of water plus one drop of egg-white; a like amount of albumen diluted with one quart of water was tolerated perfectly. No anaphylaxis resulted from the administration of yolk alone. Commencing with the dilution which failed to produce a reaction, the child was given gradually increasing amounts of solutions of increasing strength. The dosage was always one teaspoonful given three times during the day; the result has been that, in a period of about three months, the child has been desensitized to such an extent that one dram of pure egg-white is now taken with impunity and the von Pirquet test remains as negative as are the controls.

I wish to express my appreciation for opinions given me by Dr. Koplik of New York, and Dr. von Pirquet, formerly of Baltimore; and to thank Dr. Howland, of this clinic, for his kindly criticism of this report.

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A BRIEF HISTORY OF QUARANTINE.*

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Although the first enactment for the delay and isolation of travelers was adopted in the 15th year of the reign of the Emperor Justinian, A. D. 542, and a sort of detention had been known and practiced in the Orient since the 7th century, quarantine in the modern sense may be said to have originated in Italy in the 13th century as a result of the invasions of plague from the Levant into Europe. How frequent these invasions were is indicated by the fact that from 900 to 1500 A. D. plague appeared in Europe sixty-five times with dreadful ravages and terrific loss of life. The fear inspired by these visitations led the Italian cities, then the centers of trade between Europe and the Orient and dependent upon this commerce for their prosperity, to begin the enforcement of drastic regulations at their ports to prevent the importation of the dread disease by the incoming vessels. Venice appointed three commissioners of health in the year 1384, the

* Read May 16, 1913, before the Medico-Chirurgical Faculty of Maryland.

first year of the Black Death, increasing the number to six in the next century. Her example was followed by Florence the same year, by Reggio in Modena in 1374, by Lombardy in 1374, and by Milan in 1399. Maritime quarantine started in 1403 in Venice with the establishment of a detention hospital on an island adjoining the city for the isolation of all travelers from the Levant for a period of 40 days. For this purpose an old almshouse, known as the House of St. Lazarus, was employed and from this usage came our modern term lazaret or lazaretto. Genoa followed the example of Venice in 1467 in establishing a lazaretto and in 1476 the old leper hospital of Marseilles, then almost empty as a result of the dying out of leprosy, was converted into a plague hospital. It is worthy of note that whereas the earliest quarantine was directed against plague the isolation of individuals inflicted with certain diseases was by no means a new idea. The isolation of lepers was a well established practice at this time, its origin dating from the remotest periods of the world's history. About the year 1490, or probably a few years later, if we accept Ivan Block's view that syphilis was brought back by the sailors returning with Columbus on his second voyage to the new world, an ineffectual effort was also made to check the invasion of lues into Northern Europe.

In the year 1526 the greatest lazaret of early times was erected in Marseilles on the island of Pomègue adjoining the city, and here the most rigid and strict quarantine of the old world was set up. Later sanitary regulations for the whole of France were issued by Colbert, minister to Louis XIV, on August 25, 1683, and the Board of Health of Marseilles was given almost absolute power.

In 1485 Venice had adopted the rule that all vessels coming from infected ports must be detained for a period of 40 days during which time they must lie in harbor without intercourse with land or other vessels. After this period they could discharge goods or passengers. The simpler remedy of sending ships back to their port of departure was manifestly injurious to trade and the practice of permitting them to land after the 40 days detention was clearly a concession to the interests of commerce. The important relation of quarantine to commerce, so much emphasized by the English authorities, was thus clearly recognized from the first. While Venice was the pioneer in the establishment of quarantine systems, it was in Marseilles that the model quarantine station of the old world developed, one far more important, indeed, than that in Venice. According to Fischer[1] all incoming vessels here had to be provided with a health pass (bill of health) or *patent* which was to be filled out by a trusted official of the port of entry at the port of departure. On this pass must be stated what the condition of health might be in the countries and cities from which the ships came and which they touched on the voyage. Patents were of 4 kinds:

1. *Patente nette,* when the health of the port of departure was entirely satisfactory.

2. *Patente touchée,* when ships came from infected ports but no cases of illness existed there at the time of departure.

3. *Patente soupçonnée,* when a malignant epidemic prevailed at the port of departure or caravans had arrived there from pest neighborhoods.

4. *Patente brute,* when the plague was present in the port of departure and the ship had wares from an infected port on board.

In addition to the possession of proper patents, the ships themselves, their passengers and crew, and the goods they carried were subject to careful examination. The wares on board were divided into two classes, susceptible and non-susceptible, and all cases of illness and all deaths during the voyage had to be reported. Finally a classification was adopted for the Oriental ports from which the vessels came, which had great influence upon the severity of the regulations enforced. Völkers[2] states that ships with a *patente nette,* non-suspicious wares and from harbors where conditions of health were satisfactory, Class I, were detained 18 days. Ships with the same conditions but from harbors which had been infected but showed no cases of illness at the time of departure, Class II, were detained 25 days. Ships from harbors where plague might be epidemic or where caravans had arrived from pest neighborhoods, such as Smyrna or Constantinople, Class III, were detained 40 days in quarantine after a previous exposure of all wares to the air for three weeks. Finally if cases of illness were on board, the passengers were detained 80 days and the goods 100 days. On each side of the ship a row of planks was removed to permit aeration of the ship's contents. If any patient with plague recovered he had to undergo a new 80 day quarantine after complete healing of the buboes. Whenever a patient died or a new case of the disease appeared the goods on board were subjected to a new quarantine, but after a third appearance of plague the ship and all its contents were burned. At the quarantine station a lazaret was established for the reception of the sick, the well and the suspects. These strict rules caused naturally great loss of time and money and worked great injury to commerce. They were indeed so difficult to carry out that later quarantine ships were substituted for the lazarettos so that the regulations could be better enforced.

The quarantine system founded upon the 40 days detention first established by Venice remained in force in the Mediterranean up to modern times, Austria, France and Italy adhering to the original scheme. The measures were directed solely against plague, and with the dying out or at least partial disappearance of the Black Death from the civilized world, quarantine regulations began to lose their rigidity. With the appearance of yellow fever in Spain in the beginning of the 19th century and the arrival of cholera in Europe in 1831 there was a revival of interest and a demand for somewhat more stringent precautions than were then in force. Cholera and yellow fever were added to the list of quarantinable diseases and in 1831 new lazarets were established in Europe, notably in Bordeaux, where a very extensive plant was set up which was afterwards devoted to another purpose. The development of the old-fashioned system of quarantine

in the 19th century reached its maximum possibly in Spain and Portugal where special regulations were carried out to prevent the entrance of yellow fever from the New World. Here we see the transfer of the center against which nations quarantined from the Levant to South America. The largest lazarette in the world was established at Lisbon, on a hill opposite the Belem tower, 4 miles from the city, at a cost of $1,000,000 to the Portuguese government. It consisted of seven pavilions arranged in a semicircle with the convexity towards the river. It was under the Department of the Interior which managed it at a loss and let out the contract of feeding and housing the passengers to the lowest bidder. At this station quarantine was imposed on all ships, passengers, and cargoes coming from Brazil, the time varying from 5-7 days according to whether the Brazilian port was infected or suspected. A bill of health was issued to the captain of the vessel by the Portuguese consul at the port of departure giving the number of deaths from yellow fever during the past 8-10 days. Quarantine could be lifted when an absolutely clean bill of health was presented, which, however, rarely happened in the old days, since yellow fever was endemic in most cities in Brazil up to the end of the 19th century. During December, January and February the baggage and cargo of incoming vessels only were subject to detention on the theory that the virus of yellow fever could not develop at Lisbon, the passengers being permitted to go on shore at once with their hand luggage. For the rest of the year all passengers from Brazil were sent to the lazaret to remain there the alloted time, their effects being aired and fumigated or disinfected. Certain articles, including cotton, hair, hemp, letters, parcels, hides, fresh meat, wool, linen, skin, feathers, and silk were regarded as susceptible. All these were fumigated with chloride of lime, and the inside of the ship was washed with chloride of lime or other disinfectants. This rigorous quarantine was a concession to popular opinion, since a terrible epidemic of yellow fever broke out in Lisbon in 1857, with 19,000 cases and 6,000 deaths, traced to a tainted ship and cargo from Rio. The quarantine practiced at Lisbon was copied faithfully at the Azores, at Madeira and the Cape Verde Islands. The old quarantine traditions were also maintained at two chief lazarets in Spain, one at Vigo on the Atlantic Ocean and another at Port Mahon on the Mediterranean Sea. These were known as "foul lazarets." Certain ports, as Havana in ordinary times, and all ports in cholera epidemics (i. e., when cases of cholera existed there) were known as "foul ports" and all vessels from such places were compelled to enter these stations for quarantine. Only a "quarantine of observation" lasting 3-6 days could be imposed at other ports.

Turkey and Greece likewise held to the old traditions of quarantine with lazarets at the Piræus and in the Dardanelles. The lazarets in various Mediterranean, Adriatic, and Levantine ports were also maintained, including Malta and Gibraltar where the machinery of the old-fashioned quarantine still exists and can be used in cholera times.

The classical rigid quarantine which had been in vogue throughout the entire world was gradually given up except in a few areas such as those mentioned, and by the year 1886 existed in but one or two places with its pristine rigor and severity. This was due to several factors chief among which may be placed the influence of England and the growth of the modern sciences of bacteriology and protozoölogy. As early as 1815 England abolished quarantine, directing her efforts towards an improvement of the sanitary conditions of her ports and substituting the system of revision or inspection. This system took definite form in an order of the Local Government Board in 1873 according to which no vessel was detained or refused *pratique* unless there was a communicable form of sickness on board or had been during the passage. It was the duty of the officers of custom to question the captain as to any cases of contagious disease among the ship's company or the passengers. If such existed, report was made to the local sanitary officers who inspected the vessel, detaining all on board till the inspection was made, the sick removed to the hospital and disinfectants applied. This principle was accepted by the Sanitary Conference in Vienna in 1874, and was adopted by all European maritime states except Spain and Portugal.

As early as 1847 France created six medical posts in the Orient at Constantinople, Smyrna, Beyrouth, Alexandria, Cairo, and Damascus, the officers at these cities having the especial duty of keeping their government informed of the sanitary conditions there. The work of these French sanitarians was really the occasion of the first sanitary conference held in Paris in 1851. This was further necessitated by the growth of commerce between countries and the difficulties encountered in the application of the principles of the quarantine of detention. It has been followed by a number of other conferences which, in the main, have not led to as great an improvement and advance as was to be expected. Changes in quarantine laws looking toward simplicity and effectiveness of operation have come not as the result of international change of opinion, but as the result of friction between powers in enforcing quarantine regulations at a time of threatening epidemics. The first international sanitary congress was held in Paris in 1851, eleven powers sending delegates, Austria, Great Britian, the Roman States, Sardinia, Sicily, Spain, Greece, Portugal, Russia, Tuscany, and Turkey. A code was prepared for uniform action, but only France, Portugal and Sardinia were willing to sign it.[3] Another conference was held in Paris in 1859, a third in Constantinople in 1866, and a fourth in Vienna in 1874. At this last the new principle of inspection advanced by the English sanitarians was adopted. According to this principle all vessels were to be examined at the port of entry to determine the presence of disease. Sick individuals only were to be detained, the well allowed to continue their journey. This change in system was regarded as necessary in view of the enormous commerce and travel extending over the entire world. It was evident that quarantine stations to provide for all

passengers and goods regardless of the point from which they came would either be of enormous expense and a great burden in order to be effective or the detention would develop into a mere formality. Added to this was the danger that the quarantine stations themselves would become foci of infection. In 1892 a conference was held in Venice which resulted in the production of a sanitary code which was adopted by the European nations. According to this a ship should be judged not merely from its port of departure, but according to the length of time which had elapsed since departure and from the presence on it of cases of illness, which condition should be established by medical inspection. Vessels were divided into three groups. Clean *(indemne)* vessels were such as had had no cases of disease at the time of departure or during the voyage. Suspected *(suspect)* vessels were those in which cases had occurred, but not within the past few days before debarkation, the free period between the last case and the day of arrival being longer than the incubation period of the disease in question. Infected *(infect)* vessels were such as had cases on board at the time of arrival or had had such during the past few days so that the incubation time of the disease had not passed between the last case and the time of arrival, the possibility thus remaining that latent cases or cases in the incubation period might still be present. This conference had little influence in promoting the adoption of uniform regulations by different countries except from the theoretical standpoint. But the same year a cholera epidemic arose at Hamburg which showed that many of the old quarantine regulations were absurd, the greatest injury being done German commerce by injurious disinfection of wares. As a result an International Congress was held in Dresden in 1893 which established common rules for handling ships in cholera epidemics. The Dresden meeting dealt only with cholera and the measures to be adopted on land and along international borders. It first brought out the necessity of an international notification of the appearance of quarantinable diseases in epidemic form or as single cases. At this conference also a new principle was adopted in regard to passengers, permitting a medical control and observation of those unsuspected of infection, without restraining their movements or retaining them in any one particular place such as the quarantine station. This is manifestly difficult of application. In 1894 bubonic plague, which for years had lain dormant and seemed indeed to have disappeared from the world, again made its appearance in Asia and in 1896 raged in Bombay. The following year it threatened Europe causing the greatest uneasiness. It is remarkable how quickly the world went back to the primitive conditions of the quarantine of the Middle Ages. In Sicily and in Malta ships from India were kept out of port by cannon shot and in Marseilles such vessels were compelled to leave the docks. The danger to Europe from plague led to another international sanitary conference which met in Venice on February 16, 1897. This took cognizance of the new knowledge about pest and completed the regulations in regard to this disease corresponding to those prescribed for cholera. The incubation period for cholera was fixed at five days and that for plague at eleven days. On March 19th a series of agreements was published which were in the main adopted and which the Paris Convention of 1903 (the last) ratified and followed. At this conference 20 powers signed the international agreement for uniform quarantine rules and administration.

SANITARY CORDON.

At various times in the history of the world a cordon of troops has been employed to prevent the passage of individuals from infected to non-infected districts. In 1743 pest became epidemic in the state of Messina and the Viceroy ordered out a double cordon of troops to isolate the city of Messina from the rest of the island. The two cordons ran parallel, the outer consisting of 2610 men and the inner of 1089. All provinces of Sicily which were outside the cordon remained pest-free. A similar cordon was established by Russia in 1830 when the Kaiserhof in St. Petersburg protected itself against the encroaching cholera by a cordon of troops and later the same measures were adopted by Prussia to keep cholera from entering from Russia, a cordon of troops being stretched along the entire Russo-Prussian border. Still later in 1878 a Russian colony on the river Volga named Wetljankaja, with 1700 inhabitants, got Oriental plague which soon extended to the neighboring villages. A military cordon was set up surrounding the entire infected area. The inhabitants of Wetljankaja were removed, their property appraised, the citizens reimbursed and the village burned. An additional cordon was also placed around Zarizin, a neighboring commercial city of importance and the terminus of the Russian Railway system. These various cordons were maintained several months until the plague died out.

In 1884 the *cordon militaire or sanitaire* was set up by Italy against France in the passes of the Pyrenees, another the following year being established by Portugal against Spain. The American variety of this *cordon sanitaire* is familiarly known as the "shot-gun quarantine" which has been resorted to with great frequency in the past and not so very remotely. The last shot-gun quarantine was seen in this country during the time of the great expansion of small-pox after the Spanish-American war.

MODERN QUARANTINE.

According to Gotschlich[1] the principles of modern quarantine are as follows:

1. Obligatory notification of epidemics between powers, the reports being sent by telegram or cable and later, at greater length, by letter. This full reporting is not simply for the benefit of other nations, but is primarily for the benefit of infected ports since the sooner other ports are satisfied that all necessary regulations are carried out the sooner will any unnecessary or inconvenient restrictions to commerce be done away with. An unsatisfactory or untrue report on the part of any country will awaken mistrust and lack of confidence on

the part of other countries and greater difficulty will be encountered in the lifting of embargo.

2. Quarantine regulations are not applied to the entire country but only to the area where the epidemic exists *(circonscription territoriale contaminée)*. An infected area is that point where cases of disease appear. Ten days after the last case is diagnosed, provided proper precautions be carried out, the area in question is again opened to free and unrestricted commerce. All vessels which have left an infected port five days before the breaking out of disease are to be regarded as free from suspicion.

3. Preventive measures must be carried out before the departure of the ship from an infected port and during the voyage. Passengers and crew must be supervised by medical authorities before departure, individuals with suspicious symptoms being left behind. Dirty clothing and objects of personal nature must be disinfected before departure. This usually may be limited to passengers of the third class and to the ship's company, since it has been shown that, in general, individuals belonging to the better walks of life seldom carry diseases like cholera or plague. Ships must be cleaned and provided with drinking water from an uninfected and unsuspicious source before leaving port.

4. During the trip careful medical inspection of all individuals on board must be carried out and proper disinfection applied when suspicious cases occur. For certain classes of vessels, particularly pilgrim ships and emigrant ships, a ship's doctor and an apparatus for steam disinfection are obligatory provisions.

5. Measures in the port of entry depend upon the results of the medical examination of incoming vessels. Unsuspected or unsuspicious ships are allowed to go free at once after the doctor's visit *(libre pratique)* provided five to ten days have elapsed between the time of departure and time of arrival, five days for cholera and ten days for plague, the maximum incubation period. By shorter journeys this time is to be completed in quarantine. At the discretion of the quarantine officer all non-suspected ships may be treated as suspected. All articles on board such as old or dirty clothing and personal effects must be disinfected if the physician deems them likely to convey infection. Suspected ships must be inspected by the quarantine physician, all rooms occupied by cholera or plague patients must be disinfected together with all dirty clothing and personal effects. All bilge water, water ballast and drinking water must be discharged and a new supply obtained from an unsuspicious area. Passengers and ship's company must be kept under observation 5-10 days (depending on the disease), and during this time the landing of the crew is to be limited as far as possible. Passengers may be allowed to continue their way but must be kept under police supervision till the end of their journey. If the ships be actually infected by the occurrence of cases of disease on board the sick must be transferred to quarantine hospitals, and the dead bodies interred with all possible precautions and all other persons kept under observation either at the quarantine station or at such places as they may select. This observation must last five days for cholera and ten days for plague.

Wares or Goods.

According to the Venice Conference the following materials are infectious (*marchandises susceptibles*): clothing and underclothing, rags, refuse, used garments, carpets, hangings, laces, hair, raw skins, animal wastes and unclean wool. For cholera certain articles of diet are also susceptible especially milk, butter, vegetables and fruits. The transposal of infectious material from an infected area is forbidden. The retention of wares in quarantine as formerly practiced is now given up, but all infectious material is to be at once disinfected without foolish formalities, such as the disinfection of letters. (The same rule would probably apply to money.)

Quarantine of Pilgrims.

The great danger to Europe which rose from the various bands of Mohammedan pilgrims to Mecca passing through the Suez Canal and the recognition of the part they had played in earlier times in the dissemination of disease led the Paris Conference of 1894 to establish special rules for these individuals as regards Asiatic cholera, and the Venice Congress of 1897 adopted similar rules for plague. According to these rulings all pilgrims are to be examined before departure from home and their effects disinfected. To accomplish this properly a limited number of ports are selected from which pilgrims are allowed to depart for Mecca, and individuals without money to defray the expenses of the trip are not permitted to leave. Pilgrim ships must always be provided with a doctor and an apparatus for steam disinfection. Overcrowding should be avoided, cleanliness insisted upon and a good supply of food arranged for. In addition to these general regulations applicable to pilgrims before departure, the Egyptian government now requires that each pilgrim from Egypt should have a pass with his correct name and address without which he cannot again land in Egypt. This is especially designed to prevent the return to Egypt of irresponsible vagabonds, wandering about from point to point, objects of charity and a danger to the community.

Pilgrim ships are detained in quarantine at a number of points. Vessels from the South are quarantined at Kameran (or Zameran) on the Arabian side of the Red Sea, 200 miles within the Straits of Bab-el-Mandeb. This station is under the control of the Turkish Government and has usually been regarded as hopelessly inadequate. Ships from the North are examined either at Wejh on the coast of Arabia, half way between Jedda and Suez or at El Tor on the Sinaitic side of the Gulf of Suez. The station at El Tor under the control of the Egyptian Government is entirely satisfactory. There 20,000 pilgrims can be cared for. The station lies on the west coast of the peninsula of Sinai on the land side, completely shut off from the adjoining desert by a high wire fence. Disembarkation is possible only by landing bridges, so that

the station is completely isolated. On landing the pilgrims are passed into the disinfection halls which are separated into clean and dirty sides. Here on the dirty side the pilgrims must completely disrobe, take a douche bath (what a trial for a pilgrim!) while their clothing and effects are disinfected. Transferred to the clean side the pilgrims are provided again with their disinfected clothing and divided up into detachments. These detachments are kept under observation for a period of time varying from three days, if no cases of plague or cholera existed at Hedjaz, the point from which they disembark, to eighteen days if cases of the disease did exist there. Should a case of disease break out in any section of the pilgrims, this section only must be quarantined again for eighteen days from the date of isolation of the last case.

The quarantine station at El Tor is directly under the authority of an Egyptian International Commission, *Consul sanitaire maritime et quarantinaire d'Égypte,* which also maintains a station for passenger ships at Moses' Wells on the Red Sea. Special regulations are enforced at these stations for all vessels which pass the Suez Canal. Every ship is subjected to medical inspection. Should sick cases occur they are transferred to isolation hospitals at the quarantine station and the parts of the ship contaminated by them disinfected. The other passengers and crew are either retained in quarantine if no doctor or apparatus for steam disinfection be on board or may remain in the vessel in the latter event. After five to ten days freedom from disease the ship is allowed to go through the Suez Canal *(transit en quarantine)* but must not come in contact with the shores of the canal.

Quarantine stations for emigrants similar in character to those for pilgrims are now maintained at a number of ports, particularly in Germany. One of the most complete of these is that of the Hamburg American Line in Hamburg.

Quarantine in the United States.

The first conference in the United States for a uniform system of quarantine regulations was one of Boards of Health in Philadelphia in 1856 occasioned by the presence of yellow fever in Bay Ridge the year before. Others followed in 1857 and in 1859 but nothing was accomplished in the way of adopting uniform regulations in this country, the various cities continuing to operate their own quarantine stations and enforce their own laws, until the passage by Congress of the Act of February 15, 1893, entitled "An Act Granting Additional Quarantine Powers and Imposing Additional Duties Upon the Marine Hospital Service." This act established a national system of quarantine designed primarily to supplement and assist the various local authorities in the establishment and enforcement of proper laws. Gradually the National Government through the Marine Hospital Service, now the Public Health Service, has assumed control of various quarantine stations in this country and at the present time is operating nearly all the important stations, including those on the Atlantic seaboard with the exception of New York, Boston and Baltimore. Up to 1881 the following diseases were quarantinable in Boston: yellow fever, typhus fever, smallpox, and cholera. Since then have been added plague, diphtheria, scarlet fever, typhoid fever and measles, the period of time varying, of course, with the disease. New York quarantines yellow fever, measles, cholera, typhus or ship fever, smallpox, scarlatina, diphtheria, relapsing fever, and any disease of a contagious, infectious, or pestilential character, which shall be considered by the Health Officer dangerous to the public health. In Baltimore the quarantinable diseases are typhus fever, yellow fever, cholera, plague and smallpox. Other diseases may be added to this list at the discretion of the Health Officer. The uniform regulations of the Public Health Service call for quarantine in cholera, yellow fever, smallpox, typhus fever, leprosy and plague.

Scientific Basis of Quarantine Regulations.

It is evident from this brief history of the development of quarantine that the earlier regulations were entirely empirical and had little or no scientific basis. Indeed no matter how strictly they were enforced, the quarantinable diseases frequently got through quarantine despite every effort. Even the sanitary or military cordon was not entirely effective since cholera broke out in the city of Berlin in 1830 despite the protection afforded Prussia by her troops stationed along the Russian frontier. The failure of the old quarantine was the direct result of the lack of complete knowledge of the etiology and epidemiology of the very diseases against which protection was demanded. Quarantine became a pure science only when the science of parasitology was developed to a point where sanitary officials could know what to do, what measures to insist upon. With the advent of modern bacteriology beginning with the year 1878 quarantine regulations began to be applied with some knowledge as to the particular links in the chain of transmission of the various diseases which should be broken. A number of investigations had great influence in this regard. Chief among them must be placed the discovery of the cholera vibrio by Koch in 1883-84 and the development of a technique for its isolation from the stools and its proper identification. This gave an accurate method of making a diagnosis in all cases of suspected cholera, and Koch's cholera classes, which he personally instructed at the Gesundheitsamt in Berlin, revolutionized the methods of quarantine at first in Germany and soon over the civilized world.

As a result of the new knowledge brought by bacteriology the unexpected outbreak of plague in Bombay and Hongkong in 1893 and 1894 found a body of trained investigators ready to study the problem of the etiology and the epidemiology of the Black Death with modern methods. The work of Yersin and of Kitasato established the microbic origin of plague, and the subsequent investigations of a host of bacteriologists and sanitarians perfected our knowledge of its method of transmission. It may now be regarded as proven that the preventive measures which must be directed against plague depend entirely upon the variety of the infection. With the

pneumonic form it is the individual himself who is dangerous, the infection spreading from person to person through the agency of the plague-laden sputum. In bubonic plague entirely different conditions are met with. The individual himself is not dangerous. It is the infected rodent population from which the disease passes to man chiefly through the medium of insects (the rat flea for instance) against which quarantine measures must be directed. Bacteriology, however, has solved the problem of but two of the five great quarantinable diseases of the world. For two of the other three at least protozoology has furnished the clue. The investigations in this science which have led to the discovery of the important facts really began with the demonstration by Sir Patrick Manson that the disease filariasis produced by the nematode worm *Filaria sanguinis hominis* is transmitted to man by the bite of the mosquito which harbors the parasite. This discovery was followed by the work of Theobald Smith on Texas fever of cattle who showed for the first time in the world's history that a protozoan disease was transmitted by an insect host, in this case the cattle tick. As a result of these investigations it became possible for Walter Read and his band of devoted followers to prove that yellow fever, the scourge of the New World as plague had been of the Old, is carried only by the female form of Stegomya fasciata. The clothing, the dejecta and the personal effects of yellow fever patients are entirely without infectivity. It is now an old story how the application of the work of Read, Carrol, Agramonte and Lazear enabled Wood and Gorgas to drive yellow fever out of Cuba, and Gorgas to keep the Panama Canal Zone free from this disease. Without this knowledge the Panama Canal could not have been built and the United States was just as surely doomed to failure as was the Republic of France. Furthermore this knowledge of the epidemiology of yellow fever has enabled the southern ports of the United States to keep this infection out of America and, in the few instances in which it has found entrance, notably in New Orleans, and in Brunswick, Georgia, to eradicate it without great loss of life. Finally it has now been shown by the work of Nicolle in Algiers and by the investigation of Rickets, Anderson and Goldberger in Mexico City that typhus fever is also insect-borne, the hosts of the unknown parasite in this case being the body louse *(Pediculus vestimenti)* and the head louse, *(Pediculus capitis)*. With smallpox we are still in the dark as regards the ultimate cause but have in the Jennerian vaccination an efficacious method of protecting the population and wiping out the scourge. Many problems must yet be solved, however, before quarantine can be perfect. The greatest needs relate to diagnosis. There is now no method to establish beyond dispute a diagnosis in a suspected case of yellow fever. This must still be done chiefly by elimination. Anderson and Goldberger, however, have given the world the method of diagnosing typhus fever by the inoculation of guinea pigs, a characteristic reaction occurring with all cases of this disease. The problem of bacillus carriers is also an urgent one especially in the case of cholera. In this infection Dunbar of Hamburg has shown that apparently normal individuals may harbor and excrete the bacillus and are capable of causing widespread epidemics, a discovery which Koch hailed as next to the discovery of the vibrio itself, the most important to be made in the epidemiology of Asiatic cholera. Whatever else may be needed in a quarantine station the services of a competent bacteriologist, with special training along certain lines and an up-to-date bacteriological laboratory with special equipment for making diagnoses of plague, cholera, and typhus fever, must be regarded as essential, as well as the presence in quarantine of expert physicians who can recognize with some certainty smallpox and yellow fever.

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NEW PUBLICATIONS.

The following six monographs:

Free Thrombi and Ball-Thrombi in the Heart. By J. H. Hewitt, M. D. 82 pages. Price, $1.00.

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The Origin and Development of the Lymphatic System. By Florence R. Sabin. 94 pages. Price, $2.00.

The Nuclei Tuberis Laterales and the So-called Ganglion Opticum Basale. By Edward F. Malone, M. D. In press.

are now on sale by The Johns Hopkins Press, Baltimore. Other monographs will appear from time to time.

TATTOO MARKS FOR THE IDENTIFICATION OF ANIMALS IN LABORATORIES.

By J. A. HUNNICUTT, M. D., and A. P. JONES, M. D.

(From the Hunterian Laboratory of Experimental Surgery, The Johns Hopkins University.)

Various methods have been employed for the identification of animals in laboratories.

TATTOOED INNER SURFACE OF RABBIT'S EAR.

For the larger animals, tags and detailed descriptions have been relied upon, and for the identification of rabbits, cats and guineapigs, the cages have been marked and the animals carefully described. Sometimes stains have been used.

It occurred to one of us that tattooing might be simpler and more reliable than any of the means hitherto employed.

The inner side of the animal's ear has seemed, after repeated trials of other places, to be the best spot for the tattoo mark, which is made while the animal is under the influence of the anæsthetic.

India ink, a No. 9 seamstress' needle, and an artery clamp are the only articles required for the performance of the little operation. The inner side of the animal's ear is cleaned with 95 per cent alcohol and dried with gauze before tattooing. The needle is shortened by breaking off the tip, and the eye-end is sharpened to a point. The clamp serves as needle holder, and the eye of the needle as carrier for the India ink into which it is dipped. Letters or figures are made by a series of pricks with the sharpened eye-end of the needle, which is inserted into the skin at an angle of, perhaps, 25°.

We have been testing this method of indelibly marking our animals for several months and are well pleased with it.

IN MEMORIAM.

REGINALD HEBER FITZ.*

By W. S. THAYER, M. D.,

Professor of Clinical Medicine, The Johns Hopkins University.

It is a sad but grateful opportunity, that of coming home today to pay an affectionate tribute to the memory of my dear and valued master.

It is not far from thirty years ago, though it seems but yesterday, that we sat in the precipitous amphitheatre of the then new school building in Boylston Street, and listened to his brilliant talks. No one who heard those remarkable lectures could have failed to carry away a deep impression of the strength, the ability, the learning of the man. They were remarkable lectures, remarkable in form and in substance: models of clear and precise exposition, admirably delivered in language, every facetted word of which seemed to have been so chosen that it, and it alone, could fill its place. Stimulating hours which gave to many of us a lasting realization of the importance of precision and accuracy in observation and thought and expression.

Fitz was not an investigator in the sense that he carried out or led original, experimental research, but his contributions to the science and art of medicine were none the less important and valuable. His habits of discriminating precision in thought, in observation, in interpretation, in exposition gave him that penetrating clearness of vision which enabled him to extract, as could no one else, from a mass of apparently unrelated observations, the concise, clear, clinical picture, correlated with definite physiological and pathological processes and anatomical changes. It is no small achievement that this one man should have given to the world the first clearly defined description of two such important maladies as appendicitis and acute pancreatitis.

His communication entitled "Perforating Inflammation of the Vermiform Appendix, with Special Reference to its Early Diagnosis and Treatment," was delivered in Washington before the first meeting of the Association of American Physicians on the 18th of June, 1886, now more than twenty-seven years ago. In this study, the orderly system and simplicity of which are so characteristic of the man, he focussed clearly,

* Read at a Memorial Meeting at the Harvard Medical School, Boston, Mass., November 17, 1913.

for the first time, the vision of the medical world on the true nature of the inflammatory processes occurring so commonly in the right lower abdominal quadrant, and showed, convincingly, that the seat of primary disturbance, in the great majority of instances of this nature, lies in the appendix vermiformis. And along with this demonstration, he set forth in a masterly manner the clinical manifestations of the disease.

This publication came at a time when the world was well prepared. Everyone recognized that Fitz had, as it were, put his finger on the spot. Once set forth, the pathological and clinical sequence of events seemed almost obvious—obvious as are so many great truths when once they have been clearly enunciated. The sharp light thrown by Fitz on this common and perilous pathological event brought it about that our countrymen were fully ten years in advance of the rest of the world in their comprehension of this process, and in their skill and efficiency in the care of the patient.

How many human beings owe their lives to-day, more or less directly to Fitz, no one can tell. Surely, it is no small number.

There has been one curiously paradoxical sequence of this great contribution. The word "appendicitis" employed by Fitz in the course of this article was immediately seized upon by the public and has entered into universal use, but not without bitter protest from some who still shudder at its etymological hybridism.

It is an amusing thought that of all men, Fitz, the most careful and accurate, should have been the target of irritated critics, because of the introduction into medicine of what they regard as an ill-constructed word.

The practical importance of the facts set forth in this first contribution has, it has often seemed to me, somewhat overshadowed the brilliancy of the later work. In his studies on the appendix, the truth seemed so nearly ready to emerge of itself that the medical public grasped, immediately, the significance of the exposition. The lectures on acute pancreatitis, on the other hand, treated of a subject of which little was generally known, even anatomically. The analysis of the carefully collected pathological material, the discriminating consideration of the clinical features and the final synthesis of the definite, convincing clinical picture of the disease, acute pancreatitis, was truly a great achievement.

How well I remember the demonstration by Virchow, nearly a year after the delivery of the Middleton Goldsmith lectures, after I had seen acute pancreatitis recognized clinically and confirmed at necropsy—how well I remember the demonstration by Virchow of the organs from a case of disseminated fat necrosis with sequestration of the pancreas, accompanied by the observation that these instances were pathological curiosities. With what pride I sought him out and made him familiar with the little pamphlet which set forth so clearly and so simply the clinical aspects of the disease!

How vivid is the memory of Fitz's recitations and demonstrations! What student who attended them can forget the charm of that subtle and incisive, but yet humorous and not unkindly irony—or rather, perhaps, that ironical facetiousness which so disconcerted some of his pupils and colleagues, and so delighted others; which was, I am sure, highly beneficial to many who did not fancy it at the moment.

One did not go to sleep in Fitz's demonstrations!

By nature of a careful and judicious temperament, he was a strong man, and had the strong man's love for discussion, argument, opposition. Just and tenacious of his opinions as a strong man should be, his firm mind was not easily shaken. But firm though his mind was, it was ever open to recognize and welcome and embrace the new truth. This very attitude of apparent opposition was one of Fitz's most stimulating qualities, inciting his associate, whether student or colleague, to keener and more efficient effort.

At the necropsy table he sought to induce the clinician to express a definite opinion as to the nature of the case, and, where there proved to have been any failure wholly to apprehend the character or extent of the pathological process, he often pointed out the omission in diagnostic procedure or the error in reasoning which had been responsible for the incompleteness of the diagnosis. This most instructive and valuable habit was trying to some over-sensitive colleagues. But Fitz was consistent; he did not spare himself. While yet pathologist at the Massachusetts General Hospital, he used to visit, in the surgical wards, patients on whom an abdominal section was to be performed, in order that he might compare his bedside observations with the results of surgical investigation. His opinions he was always willing to express, far more willing, sometimes, than those in attendance upon the patient. This habit must have been of great assistance to him as a consultant in later years; as an example to the house officers it was invaluable.

Fitz's peculiar keenness of intellect inspired, at first, in certain of his students, an admiration and respect not untinctured with fear—something akin to the *Ehrfurcht* of our Teutonic brethren. But the element of fear dissolved into love with the first personal contact. How simple and gracious was his reception of the student who, perhaps, with some misgiving, sought his counsel in private! His unfailing kindness and thoughtfulness, his friendly interest and wise advice so freely and generously given, meant more to some of us than words can express.

To not a few of his students, his teaching and example were the great inspiration of their school days, and to most of these men this inspiration has been a lasting and a growing influence. There must be many who owe to him their best ideals in medicine, and surely, there are others of his pupils who have been, as have I, so jealous of his regard that any consciousness of lapse or shortcoming has been inevitably associated with the sting of the thought that they were unworthy the confidence of Fitz.

It is very strange and sad, the thought that all this wealth of wisdom and learning and experience so slowly and painfully acquired through a long and active life, has vanished in a moment. It leaves one with a sense of immense emptiness and vacancy and waste.

But he has left to mankind a large legacy in his epoch-making contributions, and with his students and disciples he remains ever present, embodied in their highest ideals. If these disciples shall succeed in shaping their lives as he might have wished, his beneficent influence will long endure.

TWO MEN:
GEORGE ALEXANDER GIBSON
HUGH ANGUS STEWART.*

By W. S. THAYER, M. D.,

Professor of Clinical Medicine, The Johns Hopkins University.

Seven years ago, there came to us from Edinburgh, a young man who desired to spend a year at work such as might enable him to prepare the thesis necessary for the acquisition of his doctorate in medicine. This young Scot brought with him letters from his former master in Edinburgh, a man distinguished in his profession and very dear to his friends. The affection that the pupil always showed toward his master and the almost loving interest with which the master inquired for his pupil on those too rare occasions when it was my good fortune to be thrown with him, have brought it about that these two men, in some ways very different, have been closely associated in my mind.

By a strange fate, both of these men, seemingly so full of life and strength and vigor, have gone within a few months of one another.

The world was ill able to spare them.

I cannot refrain from saying, at the outset, a few words of the master from whom Hugh Stewart drew much of his inspiration, the man who gave him that advice which brought him to us.

George Alexander Gibson was born in Perthshire, in 1854, and graduated in medicine in Edinburgh in 1876, taking his degree of M. D. in 1881. In 1874 he had already obtained the degree of B. Sc. at the same university. A fine, spirited, able fellow, he soon attained eminence as a practitioner and a teacher, and his visits and clinics at the Royal Infirmary were greatly appreciated by a wide circle of students. He was a member of many learned societies and his contributions to medical literature were numerous and valuable. Gibson was an able clinician and a successful teacher, but above all he was a man of unusual personal magnetism. He was not a great investigator; he had conducted no notable, original experimental work, but he was an excellent observer, a clear, forceful teacher, and he had a remarkable power over his fellow men, a power always for good; sane, wholesome, stimulating. Of a large frame, with a ruddy complexion, Gibson's clean-cut features might have sprung from some eighteenth century portrait, and the fresh glow of his countenance seemed to permeate the air about him with a spirit of confidence and optimism, an indescribable sense of the joy of life; for Gibson had a rare and mellow human charm. The joy of life was ever in him—on the golf course; rod in hand by the rushing stream; in his library, reading with sympathy the works or the life of some master of his art, rejoicing in the wit and wisdom of a Holmes, with every incident in whose life he was familiar, chuckling over some crystalline epigram of an Anatole France whom he loved to quote; in his wards, surrounded by his students, or about his more than hospitable board—the joy of life was in him and radiated warmth and health and happiness upon those who surrounded him. Wherever he was, his ear was always ready, his eye was ever open to seize some unexpectedly humorous aspect of the situation. He was kindliness itself. He loved his fellow man, and his fellows loved him. There are many of us here in America who remember him with warm admiration and affection.

Such a man, if he has, as had Gibson, sound training and natural clinical ability, cannot fail to be an inspiration to his pupils. His great work lies, not so much in his own original contributions to medical science as in the influence which he has upon those about him—pupils, friends, patients. Freed by his nature from the blinders of vanity and pride, such a man knows and weighs his own limitations as well as those of others, and is often the best and wisest adviser to the youth who desires to enter upon a more strictly scientific career. Such a man George Gibson seemed to me, and as such a man Hugh Stewart loved him and looked up to him.

At even so recent a period as seven years ago it was by no means customary for a European student to seek, in an American laboratory or clinic, the opportunity to pursue post-graduate study. But Gibson realized the importance and the value of a cosmopolitan education and experience, and so it was that we came to know Hugh Stewart.

Stewart also was a Highlander, accustomed as a boy to the Gaelic tongue—a Scot by birth, by nature, by tradition, by education. From a youth passed amid the wild beauty of those purple moors and hillsides which for centuries have nourished some of the sturdiest of our British stock, he drew all the vigor and strength so characteristic of that wonderful people—that strain which, springing from a remote corner of a little island, is so inseparably bound to all that we most love and treasure in history, in romance, in poetry, in art, in science, in literature, in statecraft—which has contributed so largely to all that makes for the greatness and stability of our race. Tall but so well proportioned that he never impressed one as a strikingly large man, with fine, expressive features, Stewart had a quiet, modest, rather diffident manner. He was a man of few words, and he never spoke about himself. Of his early life, even his best friends knew little, for he rarely dwelt upon it.

At the outbreak of trouble in South Africa, Stewart entered the army as a volunteer, and served creditably. He referred, occasionally, with some humor, to the circumstance that, for a time, his duties put him in charge of a number of army

* Remarks made on the occasion of the dedication of a memorial tablet to Hugh Angus Stewart, M. D., Columbia University, N. Y., November 15, 1913.

mules which had been imported from the United States. I regret to say that his opinion of the moral character of those mules was such as to inspire a distrust which I was never able wholly to shake, as to the business probity of those of our countrymen who had been instrumental in furnishing these important engines of war.

Quiet and modest as was his demeanor, he was one of the strongest and most self-sufficient characters I have ever known. His problem once chosen, he went to work with an all-absorbing energy and persistency. Remarkably resourceful, he rarely asked assistance or advice. He framed his own plans, devised his own instruments and pursued his problem to its end in an orderly and systematic manner. During his first year in Baltimore, he carried out, in Dr. Hirschfelder's laboratory, the excellent piece of work on the pulse and blood pressure changes in aortic insufficiency, which earned him his degree of M. D. and a gold medal.

After returning to Edinburgh to receive his well-earned honors he came again to Baltimore in the fall as my assistant. His duties in this capacity were numerous and not always easy, but he found time, nevertheless, to carry out some exceedingly interesting and ingenious experiments which apparently demonstrated that the circular muscle fibres below the aortic and pulmonary valves enter into contraction slightly later and remain in contraction somewhat longer than the rest of the ventricular muscle. In the course of this work, he showed remarkable mechanical ingenuity in devising a delicate instrument for the graphic registration of these muscular contractions. Why these experiments were not recorded I have never known. Stewart was not one who rushed into print and it is probable that he felt that there was still something lacking to make the demonstration complete and his results unassailable.

He was an admirable assistant, ready, understanding, far-seeing, and he soon showed himself to be a man of excellent clinical judgment. His most valuable qualities were, I should say, his self-sufficiency and his independence. Deferential, never obtruding his opinion, he always knew his own mind, and if the opportunity offered, he expressed his views, whether or not they agreed with those of his superior officer. He was fond of argument, showing, in rather high degree, an inclination to take up opposition to any sharply enounced proposition, a tendency which was so striking in an honored leader of the medical profession in America, whose untimely death we have so recently had to mourn—my dear old master and friend, Dr. Fitz. But there is no more valuable habit of mind than this when it is associated with a fundamentally open and judicial temperament; it is an attitude which, as I have often said of Fitz, is characteristic of the strong man—and Stewart was a strong man.

I can see him now: We were perhaps discussing some question of interest, and, in my enthusiasm, I had expressed my views at some length and rather positively. Stewart had listened with perfect deference but when I was done, he would lower his head a little, as if he were about to charge some obstacle, and in a quiet, determined manner, with a slight Scotch accent, he would say, "I don't think so"—and he was generally able to give good reasons why he did not think so.

After a year's service as Assistant Resident Physician, Stewart became Assistant in Pathological Physiology in the Johns Hopkins University, and a Fellow of the Rockefeller Institute. During this year, he carried out with Dr. King some important experiments in which it was shown that the toxic element of the bile, that which causes the lowering of the blood pressure and the slowing of the heart, lies in the pigments and not, as is still so commonly asserted, in the salts. Following this, Stewart published an interesting note on "The Dextrose Consumption by the Isolated Perfused Human Heart."

In 1909, he left Baltimore to become the Associate of Dr. MacCallum, as Assistant Professor of Pathological Anatomy in Columbia, and it was with most sincere regret that we parted with him. That which he accomplished in these last four years, I need not tell you.

Stewart had always desired eventually to enter into clinical medicine, and alongside of his experimental study in the laboratory and his teaching, he kept in touch with the patient at the bedside in St. Luke's Hospital. In medicine his especial interest was in the study of the circulatory system, an interest stimulated, undoubtedly, by his work with Gibson. The list of his valuable contributions shows how consistently he pursued the course that he had chosen at the outset.

To all he seemed a man of exceptional promise, one who must surely have made his mark.

The master, essentially a clinical observer, had impressed upon the pupil the desirability, in the new day, of preparing himself for a career in medicine by years of fundamental study and research, that he might be fitted properly to direct the many activities of a modern medical clinic. And there were few men in America better fitted for such a career than was Stewart at the time of his death. Reserved, undemonstrative, retiring as he was, it was not difficult to see that Stewart was a man of really deep feeling and of rare loyalty. For Stewart was a man—a man in the purest and best English sense of the word—a man on whom one felt instinctively that he could rely in any emergency. And after all, is it not this which means most to us in this world? What skill, what brilliancy, what powers, what accomplishments move use as do those qualities of sturdy and efficient self-reliance and courage, and honesty and directness which go to make a man! What triumph of genius stirs us as deeply as does the simple story of a Scott and an Oates!

And with all his ability and his talents, it is this indefinable essence of manliness that appeals to us most profoundly, as we think of the fine fellow in whose memory we meet today. There are few of us who knew him who, in our hearts, have not more than once said, "Would that I were a little more like Stewart!"

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DR. JULIUS PREUSS.*

By DR. DAVID I. MACHT.

I am happy to have the privilege of addressing a few words to this society about one who is probably unknown to most of you, and yet one with whose work every student of the history of medicine should be familiar. I am referring in particular to the students of medical history in the broader sense of the word. Those who are interested in that subject may be divided into two groups. We have, on the one hand, men who are fond of cherishing the memories and singing the praises of some excellent old local worthy, or of some honored and admired leader in the line in which they are particularly engaged. On the other hand, we find the broader, the cosmopolitan, or as we may style them, philosophical type of students of the history of medicine, who regard that subject not from the local or even national point of view, but as a phase and an important one, of the history of civilization.

To such a student, the history of medical science among the other nations and races is of especial interest. But unfortunately the access to the literatures of other nations than those of Western Europe is a difficult one, and so our acquaintance with the medicine of the Orient, for instance, is but a very superficial one. This is particularly true of Ancient Hebrew and Arabic medicine. Although a number of monographs in this field have from time to time appeared, the information which they contain was gathered either indirectly at second hand, or by some one unfamiliar with medicine.

Thus, for instance, of the two most important works on Biblical and Talmudical medicine until recently, one published in 1860 by Wunderbar was by a *layman*, and the other appearing in 1901-1903 by Prof. Ebstein, was by a great physician but one unfamiliar with the Semitic language and literature. What that means can hardly be appreciated by one who knows nothing of the Hebrew or Arabic tongues—their briefness, conciseness, and force. They describe but little, but the rich significance of their verbal roots paints in one word the picture of a complicated subject. It was not until the publication of the "Biblisch Talmudische Medizin" of Julius Preuss, in 1911, that we really acquired a reliable, comprehensive, and scientific exposition of the subject, by a first-class physician on the one hand, and a thorough Semitic philologist, who made the history of medicine his life's study, on the other. It is of this author, who but recently passed away, and of his work that I wish to say here a few words.

Julius Preuss was born in a small village, Gross-Schönbeck, in the Mark of Brandenburg, Prussia, in 1861. After going through the public schools in the town of Angemünde, he entered the gymnasium at Prenzlau, where he distinguished himself by his brilliant scholarship. Upon graduation he went to study medicine in Berlin, and there upon the completion of the course the newspapers contained an interesting account of the brilliant young doctor, who achieved the rare feat of having passed Virchow's examination with the highest marks. Virchow stated that he knew *medizinisch zu denken*, how to think medically. He went back to his native town to practice, but soon returned to Berlin in order to be in close contact with the great minds in that center of learning. Here he practised for a living, and studied and wrote; and here he passed away after a protracted illness on September 23 last.

Preuss was the author of numerous medical papers, which, however, do not interest us here. His chief contributions to medicine were his historical papers, which culminated in the great work on "Biblisch Talmudische Medizin," completed shortly before his death.

This book, as may be seen at a glance, is a standard work, and promises to remain the authoritative reference book on the subject for a long time to come. A survey of its contents will show that the author made it his life study. Preuss can be well styled as the Boswell of Ancient Hebrew Medicine. His work is a classic which is to be classed with only a few great ones on the history of medicine, such as, for instance, that of Haeser.

Being a strictly orthodox Hebrew, he from his earliest youth devoted time to regular readings in the Talmud, Midrashim, and other Ancient Hebrew and Aramaic texts, and as an ardent student of medicine he jotted down and kept notes of every medical reference that he would come across as may be seen from the numerous references in the text. These he compared and classified, and finally compiled in the work before us.

* Read before the Johns Hopkins Hospital Historical Society, Dec. 8, 1913.

I should earnestly recommend every one desiring to trace the history of some medical subject back into antiquity to consult this book. There are but few subjects in medicine upon which it does not touch. Here is a brief résumé of its contents:

The first chapter treats of the physician in *general,* his position, education and training.

The second chapter contains extremely interesting data on anatomy and physiology, covering over one hundred pages.

The third chapter treats of general pathology and therapy.

The fourth chapter deals with special pathology and therapy.

The fifth chapter is on surgery. Here we have a description of various kinds of wounds, different operations, sleeping medicines, etc.

The sixth chapter deals with diseases of the eye.

The seventh chapter contains some extremely interesting information about ancient dentistry.

The eighth chapter is on diseases of the ear.

The ninth chapter is on diseases of the nose.

The tenth chapter describes a number of nervous affections, epilepsy, hysteria, headaches, palsies, sciatica, etc.

The eleventh chapter is devoted to a consideration of some psychiatric conditions.

The twelfth chapter treats of skin diseases.

The thirteenth and fourteenth chapters deal with gynecology and obstetrics.

The fifteenth chapter is a discussion of materia medica and pharmacology.

The sixteenth chapter is a very important and interesting one on legal and social medicine.

The seventeenth chapter is a treatise on hygiene.

The eighteenth chapter is on dietetics.

Last but not least important of all, the book contains a complete bibliography.

I do not intend to take more of your time, by going into a detailed description, but if these few remarks may serve to impress upon your memories the title of this book, I am sure I have not spoken in vain, and I know that it will be a most acceptable tribute to the memory of my friend, its author.

PROCEEDINGS OF SOCIETIES.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

November 3, 1913.

Interpretation of the Auscultatory Blood Pressure Sounds. Dr. D. R. Hooker and Mr. J. D. Southworth.

The accuracy of Korotkoff's method for the determination of diastolic arterial blood pressure in man has been questioned on the ground of clinical and experimental observations. The authors obtained a graphic registration of the vascular sounds by the use of a telephone and capillary electrometer (method of Einthoven and Geluk) and compared them with a synchronous graphic record of the excursions of the lever of an Erlanger sphygmomanometer. In sixteen records from four normal individuals there was perfect agreement between the two records for the points of systolic and diastolic pressures. Several of these records were exhibited. Tests of the delicacy of the method of sound registration convinced the authors of its reliability; and they therefore concluded that, at least in the cases observed, the auscultatory method is reliable for the determination of the diastolic as well as of the systolic arterial blood pressure in man.

DISCUSSION.

Dr. Barker: Since the appearance of Korotkoff's publications we have been using the auscultatory method of determining blood pressure in the clinic here, especially for the diastolic pressure. Dr. Hirschfelder and I were very interested in the method and found it clinically accurate. At our request Drs. Engle and Allen controlled the method with the Erlanger instrument. They found the maximal pressure to be entirely accurate when determined by the auscultatory method; the minimal pressure agreed within 5 mm. of mercury. The method is not applicable in cases of aortic insufficiency on account of the sound audible over the artery even when no pressure is applied in the cuff.

There has been some dispute as to the exact moment which corresponds to the minimal pressure. As the minimal pressure is approached on the way down from the maximal pressure one hears first certain murmurs over the artery, then a sudden accentuation of the sound, a little lower an enfeeblement of the sound, and then a disappearance of the sound altogether. The last three phases do not cover a variation of more than a few millimeters of pressure so that for clinical purposes it is really unimportant which point of the three is chosen to represent the minimal pressure. It would be interesting, however, for scientific purposes to determine by Dr. Hooker's method which one of these three points corresponds precisely to the minimal pressure.

JOHNS HOPKINS HOSPITAL BULLETIN.

The Hospital Bulletin contains details of hospital and dispensary practice ; abstracts of papers read and other proceeding of the Medical Society of the Hospital, reports of lectures, and other matters of general interest in connection with the work of the Hospital. It is issued monthly. Volume XXV is now in progress. The subscription price is $2.00 per year. (Foreign postage, 50 cents.) Price of cloth-bound volumes, $2.50 each.

A complete index to Vol. I-XVI of the Bulletin has been issued. Price 50 cents, bound in cloth.

NOTES ON NEW BOOKS.

Manual of Human Embryology. Edited by FRANZ KEIBEL AND FRANKLYN S. MALL. In two volumes. Volume II, with 658 illustrations. $10.00 (*Philadelphia and London: J. B. Lippincott Company, 1912.*)

The editors explain in the preface that the delay of more than one-half of a year beyond the expected time of publication of this volume is partly due to the fact that the sections on the heart, blood vessels and sense organs were completed by others than those who originally undertook the work of writing them. In justice to some of the authors in the matter of literature references, it should be stated that their articles were finished more than a year before the publication of the book.

Dr. Streeter discusses the development of the nervous system under four subdivisions: (1) Histogenesis of nervous tissue; (2) Central nervous system, (3) Peripheral nervous system, (4) Sympathetic system.

In the description of the structure of the neuroglia and partly in the histogenesis he follows the work of Hardesty. In the discussion of the various theories of the histogenesis of nerve tissue, proper credit is given to Harrison's work, which Streeter accepts as proving that the outgrowth theory of His is correct. He also derives the sheath cells from the ganglionic crest and advocates the theory that the T-shaped processes of ganglion cells are due to branching rather than to approximation by unequal growth of the perikaryon. Contrary to former opinion, he considers that a neurolemma is present on the nerve fibers of the central nervous system.

In referring to the optic evagination as constituting the "eyeball," he makes an erroneous use of the term. We notice the omission of the epithalamus in the list of the derivatives of the diencephalon and the inconsistent use of the terms ventral, dorsal, anterior and posterior, diencephalon and thalamencephalon.

Streeter favors the views that the rhombic grooves are branchiomeric rather than neuromeric, as hitherto considered.

On page 40 the *lamina terminalis* is spoken of as forming the anlage of the rhinencephalon and on page 47 line 7 he says "a depression for the organ of smell appears lateral to the *lamina terminalis*," and on page 90 again, "in embryos under four weeks old the rhinencephalon can only be recognized as the space between the *lamina terminalis* and the internal ridge formed by the corpus striatum."

He is in agreement with Patterson that the dorso-median septum of the spinal cord is, to some extent at least, formed by the obliteration of part of the neural canal.

The description of the development of the pituitary and pineal bodies is not very satisfactory and the term "vascular epithelial sprouts" is certainly open to objection.

In the development of the interforebrain commissures, Streeter follows the descriptions of Smith and Marchand. His suggestion that the term fissure in contradistinction to sulcus be reserved for the Sylvian and longitudinal will probably not be adopted. There is no consideration of the development of the individual fissures.

The description of the development of the nerves of the extremities is based chiefly on the work of Lewis and Bardeen, and in the case of the cranial nerves Gaskell's functional system is followed so far as possible. The sympathetic system is considered as ectodermal in origin without any reservation.

A few minor errors are noticed, as the omission of the article on page 56, line 4, and the incorrectly stated legend under figure 99.

The subject on the whole, is treated with considerable breadth of vision and is quite satisfactory. Many of the numerous illustrations are original.

Zuckerkandl, who is especially well fitted by his own researches, contributes a short but excellent chapter on the development of the chromaffin organs. He considers that the suprarenal cortex is derived from the mesothelium and the medulla from the sympathochromaffin tissue, and calls attention to the fact, of practical importance that accessory suprarenals may be found embedded in cavities in the suprarenal and may be mistaken for adenomata.

Franz Keibel contributes the chapter on the development of the organs of sense. He holds the view that the muscle spindles are not sensory; accepts Peter's idea that an unpaired olfactory plate occurs in all vertebrates; takes issue with His as to the identity of the *processus globularis* and that the nasal septum had a paired origin, and objects to Peter's verdict that Jacobson's organ is often destroyed in the adult by frequently repeated catarrh. Attention is called to the practical fact that the septal folds may persist and by hypertrophy form tumor-like structures. At the end of the section on the nose follows a brief and inadequate account of malformations in the nasal region. The illustrations are drawn largely from Peter and Killian.

In the section on the development of the eye, Keibel maintains that all attempts in the past to derive the vertebrate eye from the invertebrate have been unsuccessful. He calls attention to the fact that all cases of coloboma cannot be explained by the failure of the closure of the chorioidal fissure; follows Grynfelt and Nussbaum in developing the muscles of the iris from the ectodermal outer layer of the optic cup, and the description of Fleischer and Matys as to the development of the lachrymal passages. Attention is called to the lack of a satisfactory account in man of the development of the ocular muscles and to the desirability of a much more complete study of the post-fetal growth of the eyeball as perhaps throwing light on the development of myopia.

The results of Streeter and W. His, Jr., have largely been followed in the development of the internal ear, Hammar in the case of the middle ear, and His' and Schwalbe's account of the development of the auricle. Properly enough, Keibel criticises the too great credulity of the anthropologists as to the significance of the ear forms in criminals. However, a more extended consideration of the embryology of anomalies of ear forms would be desirable.

In the chapter on the development of the alimentary canal F. T. Lewis contributes the sections dealing with the intestines, œsophagus, stomach, liver and pancreas; McMurrich the sections on the mouth and its organs, and Grosser the section on the pharynx and organs of respiration.

Lewis' presentation of the subject is very acceptable, although in some cases he goes into very great detail. Many of the illustrations showing the development of the stomach and intestines are taken from Johnson's work. He accepts as proven the early atresia of the duodenum, but not of the œsophagus, and denies that duodenal glands are extensions of the pyloric glands. A more extended description of the histogenesis of the villi would be a desirable addition.

In the development of the liver he thinks that it is not merely an invasion of the lumen of the vein but that there is a mutual process which he calls an intercrescence. This difficult subject is well handled, due credit being given to the work of Mall and others. He finds that double ventral buds of the pancreas as described by Helly and Kollman are unusual, and that the embryological development of the islands of Langerhans does not accord with the idea that they represent a phase of glandular activity. From the discussion it is evident that our knowledge of the development of these bodies is not in a very satisfactory condition. The account terminates with a brief consideration of pancreatic anomalies.

Grosser's contribution is a satisfactory presentation of a difficult subject. He calls attention to a remarkable ventral and irregularly knobbed process filled with mesoderm and projecting from the closing membranes into the pharyngeal lumen. He interprets this

as possibly a rudimentary internal gill. Stohr's view that the lymphocytes of the tonsil are derived from epithelium is favored, and that the carotid body is from the chromaffin system rather than branchiogenetic. He introduces the term ultimo-branchial body for the lateral part of the thyroid. The statement that the widely divergent opinions of various authors concerning the condition of the post-fetal thymus is due to accidental involutions during illness is not a satisfactory explanation to the writer. On page 467 the term cervical is used by mistake for cortical. The reader of this section is left with the impression that our knowledge of the subject is in an unsatisfactory condition.

Grosser considers the lung anlage symmetrical and in this disagrees with the work of Norath and Flint and believes that no final statement can at the present time be made as to whether the branching is monopodial or not. The illustrations are numerous and drawn from several sources.

The development of the blood and vascular system is treated by several authors. Minot contributing the part on the blood, Tandler dealing with the heart, Evans with the vascular system, and Sabin the lymphatic system.

Minot justly arraigns the present nomenclature of the blood cells and blames the clinicians largely for the unscientific terminology. He boldly discards the old terms and proposes an entirely new one, dividing the erythrocytes, a group term, into the ichthyoids, sauroids and blood plastids (non-nucleated form). He considers the primitive mesamœboids as the ancestors of all blood cells and therefore red and white corpuscles arise monophyletically. He states clearly what we know and do not know about blood development. The leucocytes are divided into

- non-granular
- granular
  - fine granules
  - coarse granules
  - degenerating

Eosinophile granules he considers devoured fragments of red blood cells and not endogenous in origin. He holds the opinion that genuine blood platelets occur only in mammals and follows Wright's theory of the development of the platelets. On page 511, line 13, evidently *by* is intended for *but*. On the whole this section is the most original in the methods of presentation, most stimulating in ideas and one of the best in the book.

Tandler largely follows Mollier on the early development of the heart and Born on the later development. He describes in great detail the bends, twists, constrictions, etc., but does not always state the age of the embryo in relation to the development stages described. On page 42, line 2, the term fibrous is hardly a good histological term as used here. The histogenetic changes are not very thoroughly considered and a brief discussion of the anomalies of the heart would be a desirable addition. On page 543 the text reference should be fig. 377, instead of 397.

The section on the development of the vascular system contributed by Dr. Evans is, to a large extent, original and is a very excellent presentation of a difficult subject. The illustrations are numerous and for the most part very good. The introductory part is a general discussion of the origin of blood vessels, and the second part deals with the special development of the vascular system and chiefly with the main vascular trunks. He considers that it is impossible yet to give a decisive answer to the question of the origin of the blood vessels in the body, but his account indicates that already considerable is known and that recent additions are extensive, especially as indicating the method of transformation of the primitive blood vessels into the adult type.

He formulates the fundamental conception of the development of blood vessels essentially as follows: Blood vessels tend always to be laid down in multiple capillary anlage rather than single trunk-like forms, and the trunks are made by the preservation and enlargement of some vessels, while the others disappear and hydrodynamic grounds determine what part of the plexus shall be preserved as vascular trunks. The strong growth of a region drawing the blood to it, and the tendency of the blood stream to take the shortest path, constitute some of these hydrodynamic factors.

The following errors were noted: On page 606 *T. a.* of the plate subscription is lacking in the legend of the illustration. On page 588 we notice the incorrect spelling *posses;* on page 641, *perisodactyle;* on page 643, *cerical*, and on page 690, *branchial* for brachial. On page 641, line 12, *upper* is a very poor substitute for dorsal.

The chapter on the development of the spleen and lymphatics by Dr. Sabin will be especially interesting to American anatomists who have followed the controversy as to the method of lymphatic development. She adheres steadfastly to the sprouting theory. We notice on page 740 the error in *synecytium*. This article is well illustrated and is a satisfactory presentation of the subject.

W. Felix, in a long section of some 230 pages, gives a very elaborate discussion of the development of the urinogenital organs. The illustrations are numerous and many are original. He considers that the first six pronephric segments show dysmetamerism and that the pronephros is better developed in man than any other mammal, lacking only the internal glomerulus.

On page 800 we find the statement that the pronephros extends from the fifth cervical to the third thoracic segment, and on page 819 that the pronephric tubules are never found caudal to the first thoracic segment. An elaborate table is given showing the length of the mesonephros expressed in segments and the number and position of the mesonephric tubules. Also attention is called to the important fact that a cystic kidney may be due to a failure of the terminal collecting tubules to find and fuse with the intermediate tubules. The post-fetal growth changes of the kidney are described and finally kidney malformations are discussed. The view is held that in man the bladder is ventro-cloacogenic rather than allantoidogenic, and that there is no internal descent of the testis or ovary. We note that no embryological explanation for *ectopia vesicae* is offered.

The volume closes with a discussion by Keibel of the interdependence of the various developmental processes, accompanied by a comparative table. A literature list follows each section throughout the book.

This volume is even less adapted than the first as a text-book for students, but as a reference book it is unquestionably a classic and should be in the hands of all anatomists and biologists. Mistakes are few and there is little for criticism and the reduplication which is a natural result of multiple authorship is not excessive. Anatomists everywhere will regret that Dr. Mall is not a contributor to this volume.

Oxford Medical Publications: Gout. By James Lindsay, M. D. $1.50. (*London: Henry Frowde and Hodder & Stroughton, 1913.*)

American physicians and medical students, who have few opportunities to see cases of gout, will find this work in excellent résumé of the subject. In a brief but clear and comprehensive review of the subject the author brings out the essential points in his discussion of its aetiology, pathology, symptoms and treatment.

Headache. By Dr. Siegmund Auerbach. Translated by Ernest Playfair, M. B. $1.50. (*London: Henry Frowde and Hodder & Stroughton, 1913.*)

Symptoms are not as frequently or carefully considered by students as diseases, but a thorough study of a symptom may often elucidate fully the whole trouble. How many physicians or students, when a patient complains of headache, really stop to con-

sider what this symptom may indicate—how it arises, what nerves are affected, etc. Headache is only a certain form of pain, and pain no matter where situated is but a symptom, and practitioner must learn to look at it so, and remember that every symptom has its cause, and that he will not cure the cause by simply eliminating the pain with some form of analgesic. Because headache is so common we are all apt to consider it but a trifle except in these rarer instances where the pain is persistent or severe, and as a result our treatment of headaches is frequently worse than none at all, for we treat it without due thought. For students and physicians, who haven't a clear idea of the various forms and nature of headache, and how it should be treated, this well-written treatise of Auerbach will be most helpful. The following is his classification of headaches: A. The more independent forms (migraine, neurasthenic, rheumatic); B. Those associated with diseases of individual organs (brain, special senses, digestive tract, kidneys); C. Those in general diseases; and D. Contractions of different forms. The book is not too long for a busy doctor to read through with care, and yet the subject is so lucidly handled as to give the reader a very clear idea of not only its variety, but its importance.

The Modern Hospital. By JOHN ALLAN HORNSBY, M. D., and RICHARD E. SCHMIDT, Architect. Illustrated. (*Philadelphia and London: W. B. Saunders Company, 1913.*)

This volume of over 600 pages is an exhaustive work on the inspiration, architecture, equipment and operation of hospitals. The authors have treated the subject in detail and the chapters on "The Surgical Operating Room," "Business Management" and "Purchase of Supplies" are especially good.

In a work of this kind it is doubtful if the authors should enter into the description and detail of the administration of anæsthetics, of the uses of hydrotherapy and of minor surgical technic. Such subjects are more in the realm of therapeutics and surgery than of hospital administration. In many instances, too, there seems to be a lack of finality of discussion in certain subjects—leaving the reader in doubt as to the correct course to pursue. More space could well have been given to the subject of social service and outpatient work—branches of hospital administration which have, of late, assumed large proportions.

At the same time the book fills a longfelt want. The illustrations are very good, the text clear and the subject is presented in an interesting manner.

Medical and Surgical Reports of the Episcopal Hospital, Philadelphia. Vol. I. (*Philadelphia: Press of Wm. J. Dorman, 1913.*)

It is a pleasure to note the appearance of a volume of reports from this hospital. All large hospitals should issue such or similar volumes annually, for in this way much valuable hospital work secures a recognition, which it would otherwise fail to obtain. The larger number of reports in this volume are surgical, and a few of them have been already published elsewhere. Some of them are illustrated, and there are other illustrations descriptive of different parts of the hospital. The volume is in all respects worthy of this well-known and highly respected hospital.

A Manual of Otology. By GORHAM BACON, M. D., etc. Sixth Edition, Revised and Enlarged. Illustrated. $2.25. (*New York and Philadelphia: Lea & Febiger, 1913.*)

The merits of this manual have long since been recognized by the profession, and the present edition, with new material, will continue its popularity. The author's method of presenting his subject is attractive, and makes the book especially suitable to the student and general practitioner, who is obliged to do some operations on the ear.

Genito-Urinary Diagnosis and Therapy. By DR. ERNST PORTNER, Berlin, Germany. Translated and Edited by BRANSFORD LEWIS, M. D. Illustrated. $2.50. (*St. Louis: C. V. Mosby Company, 1913.*)

Though the word diagnosis enters into the title of this book, yet in the preface the author distinctly states that he takes it for granted that the diagnosis of the subject is understood, and, in fact he writes but little on diagnosis. As a therapy, students especially, and the general practitioner will find this a useful work. The detail of major operations is not generally given, the author simply indicating when an operation is necessary, so that the book must be recognized to have distinct limitations, but so far as Portner undertakes to instruct, his advice is good and sensible. The illustrations are ordinary, and those for the operation of circumcision very poor. On page 176 the last line of the second paragraph is omitted—four words being repeated which occur properly as printed in the second line below.

The Doctor in Court. By EDWIN VALENTINE MITCHELL, LL. B. $1. (*New York: Rebman Company, 1913.*)

This is a serviceable small volume for the physician. From it he can learn readily what the burdens and responsibilities of his profession are as looked at from the legal point of view. It does not deal in the ordinary sense of the word with medico-legal questions, but "is an attempt to put briefly .... the general principles of the law relating to the medical profession and the reason for those principles." Mr. Mitchell takes up the questions of professional evidence, the contract, civil and criminal responsibility of the profession, remuneration, confidential communications and qualifications. The busy practitioner is often in a quandry as to what are his rights on many of these points, and he will find here a clear exposition of the general status of the law. All the relations, discussed by the author, are important, and the book, because of its brevity and simplicity, will appeal to a large number of readers.

The Narcotic Drug Diseases and Allied Ailments. By GEO. E. PETTEY, M. D. $5. (*Philadelphia: F. A. Davis Company, 1913.*)

On the belief that "the essential pathology of narcotic-drug addiction (disease) is a toxæmia, a toxæmia of drug, auto, and intestinal origin," which can be cured principally by a purging of the system of these poisons, the author has built up a large book of five hundred pages. We wish that others had had as much success as the author in curing these unfortunates addicted to these habits, but there seems to be a very general opinion that this class of patients is a most difficult one to cure permanently—relapses being exceedingly numerous. Doctors, who treat the drug habitués, will be glad of this opportunity to study Dr. Petty's theory and system more closely.

George Crocker Special Research Fund: Studies in Cancer and Allied Subjects. Vols. I and III. $5 per volume. *New York: Columbia University Press, 1913.*)

The first volume is devoted entirely to a review of "The Study of Experimental Cancer," by Dr. William H. Woglom, which will be of great service to all students of the cancer problem, as "no extensive review of the more recent experimental investigation of cancer was available." A review of the chemical and bacteriological studies of cancer have not been included by the author.

Volume III contains a large number of papers from the departments of zoology, surgery, clinical pathology and biological chemistry of Columbia University on subjects which are fundamental to a proper understanding of the problems involved in the study

of cancer. It is fortunate for specialists that these very handsome books are sold at such a comparatively cheap price. Both volumes contain numerous fine illustrations.

The Microtomist's Vade-Mecum. By ARTHUR BOLLES LEE. Seventh Edition. $4. (*Philadelphia: P. Blakiston's Son & Co., 1913.*)

This is a book every microscopical laboratory worker will find most useful to have close at hand. Lee has complied practically all the useful methods of staining and preparing microscopical specimens, and keeps his well-known work up-to-date by including all the newer means that have proved themselves of value. It is excellently well arranged and has a good index so that its users can readily find what they need, and if they so desire look up the original papers in which the methods are described.

International Clinics. Vol. III. Twenty-third Series. 1913. $2. (*Philadelphia and London: J. B. Lippincott Company.*)

The largest clinic is by Gwyn of Philadelphia on the "Treatment of Pneumonia"; it is an interesting paper as showing the results achieved with different forms of treatment during one winter at the Philadelphia Hospital.

Daniel of London writes at length on "Gastro-Intestinal Toxæmia," and Abrams of San Francisco writes on the value of the concussion of the seventh cervical spine for stimulating the heart-reflex, what he calls his method of "vertebral reflex therapy."

All the clinics treat of subjects of perpetual interest from one point or another to the physician and surgeon, and introduce to many readers new methods of treatment which may help to make their practice better if carefully studied.

Diet in Health and Disease. By JULIUS FRIEDENWALD, M. D., and JOHN RUHRÄH, M. D. Fourth Edition, Thoroughly Revised and Enlarged. $4. (*Philadelphia and London: W. B. Saunders Company, 1913.*)

This is the most helpful book on the subject in English for the general practitioner and student, and can be warmly commended. The new edition is evidence of its wide and well-deserved popularity. It is dedicated to Sir William Osler, and its fitting place on the bookshelf, is next to the latter's "Practice of Medicine."

Obstetrics for Nurses. By JOSEPH B. DELEE, M. D. Fourth Edition, Thoroughly Revised. $2.50. (*Philadelphia and London: W. B. Saunders Company, 1913.*)

It is evident that this work has found favor with nurses or it would not appear in a fresh edition; but for them it seems to us too long and too detailed in parts, while for students although not primarily written, yet considered by the author as valuable for them, the book is insufficient. It is a pity that both the author and publishers show so little taste in the illustrations; even in a medical work to open on such a frontispiece as is here found is not artistic, and others of the drawings might have been made more comely.

Essentials of Prescription Writing. By CARY EGGLESTON, M. D. $1. (*Philadelphia and London: W. B. Saunders Company, 1913.*)

The "essentials" are here compressed into very brief space, too brief for the book to be really useful except to those who desire only the merest outline. It is not nearly so good as Mann's small work on the same subject which has long been the standard, and is short enough.

Gray's Anatomy: Revised and Recdited. By ROBERT HOWDEN, M. B., etc. Illustrated. (*Philadelphia and New York: Lea & Febiger, 1913.*)

There is probably no American or English text-book in any branch of medicine so deservedly popular as Gray's Anatomy, or one that has passed through so many editions. This is a new American from the eighteenth English Edition. The essential alteration adopted by Howden is the use, practically throughout, of the B. N. A. He has added some new illustrations, and made some changes in the arrangements of the paragraphs on Surface Anatomy. It is to be hoped that until some better anatomy is written, which is not a likely probability, that Gray's will remain henceforth without further changes. There is a danger that more changes would injure it. His anatomy was a masterpiece, and to tamper with such a work is likely to do it harm. It would be interesting to know what opinion Gray would have of his work in its present form. The adoption of the B. N. A. is undoubtedly to be commended. The other changes will or will not be approved in accord with the individual reader's feelings.

Diagnosis in the Office and at the Bedside. By HOBART AMORY HARE, M. D. New (7th) edition, thoroughly revised and rewritten. Illustrated. $4. (*Philadelphia and New York: Lea & Febiger, 1914.*)

Under a somewhat altered title Hare's well-known work appears for the seventh time, somewhat abbreviated because practically all laboratory methods of diagnosis purposely have been omitted. The book has been appreciated in the past, and will continue to be in the future, for the author's method of presentation is one that is attractive to many students. This "Diagnosis" is a useful clinical guide.

Treatment of Internal Diseases for Physicians and Students. By PROF. NORBERT ORTNER. Edited, with additions, by NATHANIEL BOWDITCH POTTER, M. D. Translated by FREDERIC H. BARTLETT, M. D. $5. (*Philadelphia and London: J. B. Lippincott Company, 1913.*)

Although it does not appear on the title page, yet this is the second English edition of this work, from the fifth German, which has been so much altered by the author, that the new English issue is materially different from its predecessor. The chapters on children's diseases have been entirely rewritten, and the English scale of measures is supplied alongside of the French, and Fahrenheit scale is used to record the temperatures noted in this book. The editor has added many notes as well as a chapter on neurasthenia. This is a work which students and general practitioners will find an excellent guide to the treatment of internal diseases. It is safe and sound, and sufficient drug therapy is indicated to meet the needs of any practitioner.

The Physician's Visiting List for 1914. $1.25. (*Philadelphia: P. Blakiston's Son & Co.*)

This useful note-book, well suited in size and shape to be carried in the pocket, is always timely in appearance. The country practitioner will find it of service, as he drives from one patient to another, for all sorts of notes, and for reference, as it contains numerous tables, which are not always at one's fingers' ends.

Diagnosis of Bacteria and Blood-Parasites. By E. P. MINETT, M. D. Second Edition. $1. (*New York: Hoeber, 1913.*)

There should be no call for such a work as this; it is too small to be of any real value to an honest student of this subject. There is only one illustration and that a wretched one of the malarial organism.

Radium and Cancer. By LOUIS WICKHAM and PAUL DEGRAIS. Translated by A. and A. G. BATEMAN, M. D. $1.25. (*New York: Hoeber, 1913.*)

This brief presentation of the effects of radium on various forms of cancer, illustrated by many photographs, is a helpful manual for the radiologist. Dr. Wickham lectured in this country several years ago, and explained what could be accomplished with radium when skillfully applied in various ways in the treatment of can-

cer. In "Radium and Cancer" he shows very remarkable results he and his confrère have obtained by their brilliant manipulation of this dangerous remedy.

Modern Problems of Biology. By CHARLES SEDGWICK MINOT, LL. D., etc. Illustrated. $1.25. (*Philadelphia: P. Blakiston's Son & Co., 1913.*)

Incomplete, since they are presented in a condensed form, these lectures, delivered at the University of Jena by Dr. Minot, offer much of living interest to the reader, whether scientist or layman. Who is not interested in the questions of immortality, death, and sex even when considered from a purely scientific point of view? These are a few of the vital problems of biology which Minot discusses lucidly and learnedly.

A Manual of Surgical Treatment. By SIR W. WATSON CHEYNE, Bart., F. R. S., etc., and F. F. BURGHARD, F. R. C. S. In Five Volumes. (*Philadelphia and New York: Lea & Febiger, 1913.*)

The fifth and last volume of this excellent system is of the same high quality as its predecessors. It is a valuable work and one which will appeal to a large body of surgeons. It is not too bulky, and yet covers the general field of work in a very comprehensive and satisfactory manner. The original authors have been ably aided by their assistants Drs. Legg and Edmunds. The publishers are to be complimented on this handsome product of their press.

Cancer of the Breast. By CHARLES BANETT LOCKWOOD, F. R. C. S. (Eng.). $3. (*London: Henry Frowde and Hodder & Stoughton, 1913.*)

Quite from his own experience the author has composed this book, which, due to the introduction of case histories in the same type as the body of the text, is from one-third to one-half larger than need be. The author's results compare well with those of most operators; there are a few, perhaps, who could show a greater list of recoveries. The work is of interest as the expression of one able surgeon's thoughts and results in a most important branch of his art.

Artificial Parthenogenesis and Fertilization. By JACQUES LOEB. $2.50. (*The University of Chicago Press, 1913.*)

It is somewhat strange that this work appeared originally in German, about four years ago, and that American students have had to wait so long for an English edition. In the meantime, however, Loeb has had the opportunity to add to his first publication, so that in its new form the reader finds the latest results of the author's most brilliant and interesting discoveries. Loeb's work has long since been universally admired and praised by all capable of following his investigations, and this volume shows the originality of his thought, and skill in investigating abstruse and difficult problems. The book is a real addition to knowledge and is of fundamental importance to various branches of science.

Year-Book of the Pilcher Hospital. 145 Gates Avenue, Brooklyn, N. Y., 1913.

The appearance of this third volume is modest and most attractive. The Pilchers are to be complimented on its publication, a noteworthy index of the work done by these surgeons in their small private hospital. The papers included cover a wide field of surgery, and discuss topics of interest to all surgeons. It is an excellent proof of the general advance in medicine that three surgeons working together should issue a report of their work annually.

Surgical Experiences in South Africa: 1899-1900. By GEORGE HENRY MAKINS, C. B., F. R. C. S. Second Edition. $3.75. (*London: Henry Frowde and Hodder & Stoughton, 1913.*)

The value of this work is very distinct for the army surgeon. Even with the limits of the writer's experience, the book will, as it has already, commend itself to careful students of war problems. Of especial interest are the late notes on the patients, whom Mr. Makins was able to follow up on his return from Africa to England. The work is well illustrated, and is an important addition to the comparatively small number of volumes dealing with surgery on the battlefield.

The Modern Treatment of Nervous and Mental Diseases. By eminent American and British authors. Edited by WILLIAM A. WHITE, M. D., Superintendent of the Government Hospital for the Insane, Washington, D. C., and SMITH ELY JELLIFFE, A. M., M. D., Ph. D., Adjunct Professor of Diseases of the Mind and Nervous System in the Post Graduate Medical School and Hospital. Two octavo volumes, containing about 900 pages each, illustrated. Per volume, cloth, $6. (*Philadelphia and New York: Lea & Febiger, 1913.*)

Had psychiatry not taken such a prominent rôle of late in the study of medicine there would hardly have been a call for this system, but happily both physicians and the laity at last have begun to have their eyes opened to the part that the brain plays in disease as well as in health, and the nervous and mental diseases as also many other conditions of life have henceforth to be studied from an entirely new point of view. Under these conditions the public, and we use the word advisedly, is fortunate to have such a comprehensive and able exposition of the treatment of these diseases as is to be found in these two large volumes. Parts of the first volume will interest the social workers, lawyers, and public officials, as well as physicians, while the second volume is more purely medical. It is a pity that the general papers should be buried, so to speak, where those who are not doctors, but who are anxious to inform themselves on the questions treated, will hardly be likely to find them. There are chapters on education, sexual problems, delinquency and crime, immigration, alcoholism, etc., some written by non-medical experts, which are discussed in a manner not too scientific to be readily understood by a person of intelligence. Today these social questions are being widely handled in newspapers and journals, often by those who are quite incompetent to write intelligently about them, but here we have authorative expositions of these difficult problems. Most physicians also are ignorant about these matters, and they will do well to acquaint themselves with the modern views of treatment as presented in this treatise by leading American and English neurologists and psychiatrists. The editors are to be warmly congratulated on having accomplished their task so successfully—the chapters are well balanced, and the merit of the volumes is high. Many of the chapters close with long bibliographies, there is a good index to each volume, and the illustrations are well chosen and not too numerous.

Gonorrhea in Women. Its Pathology, Symptomatology, Diagnosis, and Treatment: Together with a review of the rare varieties of the disease which occur in men, women and children. By CHARLES C. NORRIS, M. D. 521 parges. Illustrated. $6. (*Philadelphia and London: W. B. Saunders Company, 1913.*)

The size of this volume is directely due to the Index Medicus and the Surgeon-General's Catalogue, and this is the only possible ground of complaint that can be brought against these two most valuable and splendid publications—they make it possible to review the medical literature of all countries so that authors can compile, on any common subject, over-exhausitve and exhausting

works, for few writers have the proper sense of proportion. Dr. Norris has used 2300 references culled from 20,000 found catalogued only in the last ten years. Had he written a treatise on this subject from his own experience it would have had a more distinct value. As a comprehensive work it can be recommended to all who have time to read it; even the layman will find in it chapters of interest, touching on gonorrhœa from a sociological point of view—one of its sides which, within a few years, has assumed a much greater importance than it formerly held. The disease, with its rarer complications, is well presented, so that also as a work of reference this book has value; but its size, cost, and weight (for which the publishers are responsible) will obstruct its merits being generally recognized and appreciated.

Studies Concerning Glycosuria and Diabetes. By FREDERICK M. ALLEN, M. D. (*Cambridge: Harvard University Press.*)

In a volume of over 1100 pages, with a bibliography of nearly 70 pages, but no index, a most unfortunate lack, Dr. Allen presents the results of three years of study on these conditions. The work is not for students but for specialists and laboratory workers; it covers, however, a ground which has not been before really elaborated in any work in English, so that the need of such a volume and a smaller, more practical one is undeniable. As a result of his investigations the author believes "that the cure of diabetes is now a feasible experimental problem." We trust that the work of others may prove it so, and that Dr. Allen may have the pleasure and satisfaction of seeing his studies become the foundation of the proper treatment of these most troublesome conditions. The solution of this problem depends more on the laboratory worker than the clinician, and its complexity is shown by the difficulty of its solution in spite of all who are working to solve it. A study like Dr. Allen's, even if it is not confirmed, is a valuable piece of work from the negative side, and so, although the author may be disappointed in finding that his results are not so important as he had hoped, he may find consolation in the thought that he is none the less helping others to find the right path.

The Catarrhal and Suppurative Diseases of the Accessory Sinuses of the Nose. By ROSS HALL SKILLERN, M. D. $5. (*Philadelphia and London: J. B. Lippincott Company, 1913.*)

This book of Dr. Skillern's was gotten together for the use of students, and is an admirable work for this purpose. It is well illustrated with original drawings which clearly bring out the points they are intended to show.

The anatomical descriptions are well written and concise, and not merely a re-hash of the material contained in the works on general anatomy.

The most commendable thing about this book, however, is the numerous references to the original articles. They are given at the foot of each page, and include all the best and most recent German, French and English publications on this subject. This feature alone makes it the most valuable text and reference book on this subject that we have as yet seen in the English language.

It is much to be regretted, however, that the author does not lay more stress on the relation of the infections of the accessory sinuses to general systemic disorders and diseases.

Only a small percentage of medical students become "specialists" in the diseases of the nose and throat, but each and every one should know that gastro-intestinal disturbances may result from the swallowing of pus; that anæmia, arthritis and nephritis may all have their origin in an unsuspected chronic infection of one of the accessory sinuses; and that many of the disturbances of the optic and oculo-motor nerves are secondary to obscure infections in the nose.

Pathology: A Manual for Teachers and Students. By W. J. COUNCILMAN, M. D. (*Boston: W. M. Leonard, 1912.*)

Professor Councilman has introduced several new features in this manual of pathology, most conspicuous being the absence of any illustration, and the presence of several blank pages following each chapter. Illustrations were omitted because the author feels they too often represent carefully selected areas for the illustration of a point, more commonly an individual interpretation. The blank pages are inserted that the student may make personal notes and drawings of objects studied, thereby helping create his own text-book.

Many protocols of autopsies are included presenting typical morbid processes assisting the student to correlate the lesions as a disease of an organism rather than of a single organ.

The infectious diseases and special pathology of organs are considered with more fullness than subjects which seem to the author to illustrate principles of less wide application.

After most chapters suggestions are given which serve as a guide to the experimental production of lesions considered.

The manual is of convenient size for class and laboratory work, consisting of 393 pages exclusive of blank pages.

It will be found a valuable book for the student in correlating and preserving his observations.

Diagnosis of the Malignant Tumors of the Abnormal Viscera. By PROFESSOR RUDOLPH SCHMIDT. Authorized English Version by JOSEPH BURKE, M. D. $4. (*New York: Rebman Company, 1913.*)

The work is divided into three parts—a general, special and case histories. In the special part the author considers carcinoma of the stomach, large intestine, liver, gall bladder, pancreas, malignant tumors of the kidney, and atypical malignant abdominal growths. Throughout this useful guide, Dr. Schmidt tries "to emphasize the most important factors of suspicion," as well as "the symptoms which appear first"; and by the use of case histories adds much to the value of his book, since he is hereby able to trace the history of the patient through the hands of physician, surgeon, and pathologist. For a young clinician the work affords much that is of real interest and help.

Problems of Genetics. By WILLIAM BATESON, F. R. S. Illustrated. $4. (*New Haven: Yale University Press, 1913.*)

A most interesting series of lectures, presented under the Silliman Memorial foundation, on species and variety. It is not adopted to the general reader, but specialists in biology will value highly Professor Bateson's presentation of the subject. The problems of genetics are many and varied, and their solution is extremely difficult, but of vital importance to physicians, and it is a pity that there are so few medical men who are able to follow and comprehend such a work as this, which demands a wider range of scientific knowledge than most of them have.

A Text-Book of Biology. For Students in Medical, Technical and General Courses. By WILLIAM MARTIN SMALLWOOD, Ph. D. Illustrated. $2.75. (*Philadelphia and New York: Lea & Febiger, 1913.*)

Dr. Smallwood's text-book will doubtless be popular, it is abundantly and elaborately illustrated, is not too long, and gives the medical student such information as he most needs and a good foundation to build upon. The author shows the practical connection of biology to medicine, which is required to interest the student. Had medical students, as a class, a better grounding in biology they would be more capable physicians, but this un-

fortunately they do not see until too late, and so lose something which is very essential to their development of intelligence and culture.

Modern Medicine: Its Theory and Practice. In original contributions by American and foreign authors. Edited by SIR WILLIAM OSLER, Bart., M. D., F. R. S., and THOMAS MCCRAE, M. D. Second Edition Thoroughly Revised. (*Philadelphia: Lea & Febiger, 1913.*)

Vol. 1.—Bacterial diseases: diseases of doubtful or unknown etiology, non-bacterial fungus infections, the mycoses.

The appearance of the first volume of the new edition of Osler's Modern Medicine six years after the beginning of the first edition is evidence enough that this work has been and is still in demand.

The new edition is to be condensed into five, instead of seven, volumes and its price proportionally reduced, so that it may have a wider distribution among the English speaking profession. In physical appearance the new volume is a very great improvement on the original edition; the page is larger with better type and paper, and the illustrations are quite in a different class from the very poor productions in the first edition. The number of pages in the volume is also considerably increased, and, last but not least, we have a much more acceptable binding.

The subject matter in the first volume covers a good part of volumes I and II of the earlier text, revised to date with the addition or expansion of some subjects such as the articles on pellagra and trypanosomiasis which have assumed a new importance in the last few years.

There will be those who regret the elimination of the historical paragraphs and, to a large extent, of the bibliographies. In fact it is one of the most important functions of a system to contain accurate collections of the literature to date.

Be this as it may, however, there is no doubt that the work is one of the best systems in English and will meet the demands of the greater part of the profession fully and so justify the success it has had and will continue to enjoy.

Der Primäre Lungenherd bei der Tuberculose der Kinder. Von DR. ANTON GHON. $2.15. (*Berlin und Wien: Urban & Schwarzenberg, 1912.*)

In this monograph Ghon discusses fully and with care a rich pathological material, described with sufficient detail. The investigation is directed mainly upon the relations of tuberculous pulmonary foci to the adjacent tuberculous lymph nodes. Ghon brings extremely strong evidence for the view that the pulmonary focus is always the primary one. The involvement of the lymphatic system can always be shown to be secondary although the demonstration is at times accomplished only by the most painstaking dissection. This is confirmatory of the work of Küss and Albrecht, although many clinicians still hold that the tracheobronchial lymph nodes are first infected, and the lungs thereafter, through the nodes, by retrogression. Such a clinical opinion however now seems unreasonable. As regards the origin of the pulmonary focus, Ghon holds decidedly to an aerogenous route. He believes also on the basis of his material, that even where the striking tuberculous foci are elsewhere than in the lungs, yet nearly always, even in these cases, it is through the lungs that the invasion of the tubercle bacillus has occured. S. W.

Mind and Health: With an Examination of some Systems of Divine Healing. By EDWARD E. WEAVER, Ph. D. (*New York: The Macmillan Company, 1913.*)

A plea is entered for the use of psychotherapy by religious bodies; as it is believed that one of the recognized offices of religion is to minister to *all* the needs of man. Instances are given of the failure of medical men, and occasions are cited where the minister, after engaging in prayer with the patient has effected a cure. Those religious workers who employ psychotherapy are warned and encouraged to acquire a knowledge of its scientific principles, its application, and its limitation. It might have been well to tell them that they should have a thorough medical training, because otherwise they would not know with what they were dealing, and consequently by their intervention would probably do more harm than good.

The book is a very pretentious one, and has little to recommend it. The author is much more at home in the chapters dealing with Christian Science, the Emanuel Movement, and Divine Healing, than he is when he attempts to discuss psychotherapy.

Freud's Theories of the Neuroses. By DR. EDWARD HITSCHMANN. Translated by C. R. PAYNE. Journal of Nervous and Mental Diseases. Monograph Series, No. 17. (*New York, 1913.*)

In his introduction, Dr. Ernest Jones explains how in this volume an attempt has been made to present a concise synthetic review of Freudian theories. Such a presentation is exceedingly timely and valuable, and has been well performed both by the author and the translator. Freud's theories were at first confined to the neuroses, but their scope has now been so enlarged as to include normal dream life, wit, the development and variation of the instinct of sex, and still more recently criminality, certain psychoses, sexual perversions, and the source of religious, mythological, and superstitious beliefs.

It is pointed out how universal opposition has been raised against the Freudian doctrines, because of the disclosure of an unfailing sexual etiology. It is shown how both healthy and neurotic individuals are inclined to deny the paramount importance of sexuality, the healthy, because for them it constitutes no problem; the others because of their unconscious need to spread a veil over their own weakness.

Under the term neuroses, are included neurasthenia, anxiety, neurosis, hysteria, and compulsion, or obsessional neurosis. Neurasthenia and anxiety neurosis are called the true neuroses, because their cause lies in the present abnormal condition of the sexual function; whereas, hysteria and the obsessional neurosis are called "Psycho neuroses," because in these last the causative factor is in early childhood.

A good detailed description is given of these various states. Dreams are fully discussed, and other chapters deal with the Psycho-analytic Method of Investigation and Treatment, the General Prophylaxis of the Neuroses, and the Application of Psychoanalysis.

This volume is a valuable addition to this excellent monograph series, even although it is somewhat confounding at the present day to find such a statement as "the entire sexual abstinence before marriage is not to be generally recommended, let alone demanded, since it can lead in many cases to definite incapacity for work, and indeed directly to a neurosis."

D. K. HENDERSON.

The Surgical Clinics of John B. Murphy, M. D. Vol. II. Nos. IV and V. (August and October, 1913.) Illustrated. Published Bi-Monthly. $8. (*Philadelphia and London: W. B. Saunders Company, 1913.*)

These numbers with their numerous illustrations differ in no essential way from their predecessors; the usual variety of surgical topics is discussed by Dr. Murphy in his breezy style. The clinics differ much in nature and importance. There is an excellent series of X-ray photographs of the blood supply in and around joints, made from injection preparations of a cadaver. Murphy's success with vaccines seems exceptional; many surgeons fail to secure the results he has obtained with them, and have less confidence in their value.

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